

NEUROSCIENCE

Neuroscience is an interdisciplinary science dedicated to discovering how the brain produces thought, emotion, and behavior on the levels of systems, cells, and molecules. The neuroscience programs are offered jointly through the Departments of Biological Sciences and Psychology. More information is available on the CLAS website (<https://clas.wayne.edu/neuroscience/>).

- Neuroscience (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/neuroscience/neuroscience-bs/>)
- Neuroscience Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/neuroscience/neuroscience-minor/>)

NEU 4050 Science Advocacy and Public Engagement Cr. 2

This course will provide students with the opportunity to understand diverse types of science media as well as best practices and strategies for interacting with different kinds of audiences. Offered Fall.

Prerequisites: BIO 2550 with a minimum grade of C-, BIO 2600 with a minimum grade of C-, or COM 3150 with a minimum grade of C-

Equivalent: BIO 4050

NEU 4200 Neurobiology of Addiction Cr. 3

An in-depth examination of the neurobiology of addiction in the context of psychopharmacology. Emphasis is on neurochemical and neuropharmacological aspects of drug and related addictions, using molecular, cellular, and clinical approaches. Offered Fall.

Prerequisites: BIO 3200 with a minimum grade of C-, PSY 3120 with a minimum grade of C-, or PSY 3300 with a minimum grade of C-

NEU 4795 Special Topics in Behavioral and Cognitive Neuroscience Cr. 3

This is an undergraduate seminar course that is designed to be a participatory exploration with a faculty expert on an advanced, emergent, and/or stimulating topic within Neuroscience. This course will provide students with a detailed understanding of contemporary research topics in the broad interdisciplinary field of Behavioral and Cognitive Neuroscience, encompassing behavioral, clinical, cognitive, developmental, and systems neuroscience. Offered Intermittently.

Prerequisites: PSY 3330 with a minimum grade of C- or PSY 3120 with a minimum grade of C-

Repeatable for 9 Credits

NEU 4895 Special Topics in Cellular and Molecular Neuroscience Cr. 3

This is an undergraduate course that is designed to be a participatory exploration with a faculty expert on an advanced, emergent, and/or stimulating topic within Neuroscience. This course will provide students with a detailed understanding of contemporary research topics in the broad interdisciplinary field of Cellular and Molecular Neuroscience. Offered Intermittently.

Prerequisites: BIO 3200 with a minimum grade of C-

Repeatable for 9 Credits

NEU 4990 Introduction to Research Practice Cr. 1

This seminar is an introduction to laboratory safety, research practice and scientific integrity for undergraduate students engaged in independent research. It will be a co-requisite that each student must take with their first enrollment in a NEU directed study course. The course is structured to provide instruction in basic laboratory safety and accepted standards for research conduct. It will also provide professional development and networking opportunities for students interested in careers in research and the biomedical sciences. Instruction will be provided in the form of reading assignments, discussions, lectures and case studies. Offered Fall, Winter.

NEU 4991 Undergraduate Research in Neuroscience Cr. 1

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 4990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 5 Credits

NEU 4992 Undergraduate Research in Neuroscience Cr. 2

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 4990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 6 Credits

NEU 4993 Undergraduate Research in Neuroscience Cr. 3

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 4990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 6 Credits

NEU 4994 Undergraduate Research in Neuroscience Cr. 4

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 4990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 8 Credits

NEU 5470 Preclinical and Clinical Assessments of Neurologic Disease I Cr. 3

An exploration of central and peripheral nervous system diseases from four perspectives: 1) broad disease connections 2) disease mechanisms 3) preclinical animal models 4) clinical trials and outcomes. Diseases covered are from mature research fields, with known molecular mechanisms, animal models and disease-modifying therapies in clinical trials. Students will master communication and teaching skills using: short presentations to the class, active participation in class discussions and peer-performance assessments. Students will research and present material, coordinate information between student groups, and moderate class discussions. Offered Fall.

Prerequisites: (BIO 3200 with a minimum grade of C- and 1 of (STA 1020 with a minimum grade of C-, STA 2210 with a minimum grade of C-, or PSY 2030 with a minimum grade of C-))

NEU 6470 Preclinical and Clinical Assessments of Neurologic Disease II Cr. 3

A continuation of NEU 5470 focusing on diseases from maturing research fields, where disease etiology may be ambiguous for many patients, and there may be relatively few molecular mechanisms, animal models and therapeutics available. Students will gain an appreciation of how translational research develops from pre-clinical models to clinical trials and practice. Offered Winter.

Prerequisites: NEU 5470 with a minimum grade of C-

NEU 6990 Honors Introduction to Research Practice Cr. 1

This seminar is an introduction to laboratory safety, research practice and scientific integrity for undergraduate students engaged in independent research. It will be a co-requisite that each student must take with their first enrollment in a NEU Honors directed study course. The course is structured to provide instruction in basic laboratory safety and accepted standards for research conduct. It will also provide professional development and networking opportunities for students interested in careers in research and the biomedical sciences. Instruction will be provided in the form of reading assignments, discussions, lectures and case studies. Offered Fall, Winter.

NEU 6992 Honors Undergraduate Research in Neuroscience Cr. 2

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 6990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 6 Credits

NEU 6993 Honors Undergraduate Research in Neuroscience Cr. 3

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 6990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 6 Credits

NEU 6994 Honors Undergraduate Research in Neuroscience Cr. 4

Laboratory or academic research performed under the mentorship of a faculty member. Offered Every Term.

Prerequisites: NEU 6990 with a minimum grade of C- (may be taken concurrently)

Repeatable for 8 Credits

NEU 6998 Honors Thesis in Neuroscience Cr. 3

Original laboratory or academic research performed under the guidance of a faculty member for the purpose of completing an Honor's thesis required for the completion of an Honors Degree. Offered Every Term.

Prerequisites: NEU 6990 with a minimum grade of C- (may be taken concurrently)