

# NEURAL SCIENCE (NEURL-GA)

## NEURL-GA 2201 Cellular Neuroscience (4 Credits)

*Typically offered Fall*

Team-taught, intensive course. Lectures and readings cover basic biophysics and cellular, molecular, and developmental neuroscience

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 2202 Sensory & Motor Neural Science (4 Credits)

*Typically offered Spring*

Team-taught intensive course. Lectures and readings concentrate on neural regulation of sensory and motor systems.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 2203 Lab Neural Science I (3 Credits)

*Typically offered Fall*

Team-taught, state-of-the-art teaching laboratory in neural science. The first semester includes histology and cellular and molecular neuroscience. The second semester includes neuroanatomy, sensory neurophysiology, modern neuroanatomical tracer techniques, psychophysics, and computational neuroscience

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## NEURL-GA 2204 Lab in Neural Science II (3 Credits)

*Typically offered Spring*

Team-taught, state-of-the-art teaching laboratory in neural science. The first semester includes histology and cellular and molecular neuroscience. The second semester includes neuroanatomy, sensory neurophysiology, modern neuroanatomical tracer techniques, psychophysics, and computational neuroscience

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## NEURL-GA 2205 Behavioral & Cognitive Neural Science (4 Credits)

*Typically offered Spring*

Team-taught intensive course. Lectures, readings, and laboratory exercises cover neuroanatomy, cognitive neuroscience, learning, memory, and emotion.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 2207 Mathematical Tools for Neuroscience (4 Credits)

*Typically offered Fall*

Team-taught intensive course. Lectures, readings, and laboratory exercises cover basic mathematical techniques for analysis and modeling of neural systems. Homework sets are based on the MATLAB software package.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 2210 Intro to Research I (3 Credits)

*Typically offered Fall*

Research component of the first-year core curriculum in neural science. Students participate in the research activities in several different laboratories to learn current questions and techniques in neuroscience. Performance is evaluated on the basis of learning the literature and proficiency in laboratory techniques, based on oral and/or written presentations with the laboratory group.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## NEURL-GA 2211 Intro to Research (3 Credits)

*Typically offered Spring*

Research component of the first-year core curriculum in neural science. Students participate in the research activities in several different laboratories to learn current questions and techniques in neuroscience. Performance is evaluated on the basis of learning the literature and proficiency in laboratory techniques, based on oral and/or written presentations with the laboratory group.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## NEURL-GA 3041 Spec Tpcs in Neural SCI (3 Credits)

*Typically offered occasionally*

Advanced seminars led by the faculty to provide in-depth consideration of specific topic areas in neural science.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

## NEURL-GA 3042 Special Topics in NS: (3 Credits)

*Typically offered occasionally*

Advanced seminars led by the faculty to provide in-depth consideration of specific topic areas in neural science.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 3201 Spec Tpc Neural Science (3 Credits)

*Typically offered occasionally*

Advanced seminars led by the faculty to provide in-depth consideration of specific topic areas in neural science.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 3202 Spec Top in Neural SCI Independent Study (1-4 Credits)

*Typically offered occasionally*

Advanced seminars led by the faculty to provide in-depth consideration of specific topic areas in neural science.

**Grading:** GSAS Graded

**Repeatable for additional credit:** Yes

## NEURL-GA 3301 Dissertation Research (1-3 Credits)

*Typically offered Fall and Spring*

Students participate an independent research program under the guidance of their advisor and advisory committee in the area of neuroscience that will form the basis of their dissertation research.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

## NEURL-GA 3305 Reading Course in Neural Science (1-3 Credits)

*Typically offered Fall*

The students complete a course of reading original research papers that form the basis of their dissertation research topic.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3306 Reading Course in Neural Science (1-3 Credits)**

*Typically offered all terms*

The students complete a course of reading original research papers that form the basis of their dissertation research topic.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3321 Research Problems in Neural Science (1-3 Credits)**

*Typically offered all terms*

An advanced course that forms that basis for presentation and discussion of cutting edge research problems that are germane to the student's dissertation topic.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3380 Fellows Seminar (1-2 Credits)**

*Typically offered Fall and Spring*

One-hour research colloquium given by members of the Center for Neural Science.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3390 Sem in Current Topics (1-3 Credits)**

*Typically offered Fall*

Weekly one-hour research colloquium given by the Center for Neural Science faculty or outside speakers.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3392 Sem in Current Topics (1-3 Credits)**

*Typically offered Spring*

Weekly one-hour research colloquium given by the Center for Neural Science faculty or outside speakers.

**Grading:** GSAS Pass/Fail

**Repeatable for additional credit:** Yes

**NEURL-GA 3410 Sem in Neuroeconomics (3 Credits)**

*Typically offered occasionally*

Seminar on the intersection of the fields of neuroscience, psychology, and economics.

**Grading:** GSAS Graded

**Repeatable for additional credit:** No

**NEURL-GA 3500 Development & Dysfunction of The Nervous System (4 Credits)**

*Typically offered occasionally*

Explores how the nervous system develops in normal animals, and how genetic and epigenetic factors can disrupt these processes. The major goals of the course will be to understand the extent to which current theories can explain the etiology of each disorder, and to learn how basic research can best facilitate advances in our knowledge and, ultimately, lead to treatments or cures

**Grading:** GSAS Graded

**Repeatable for additional credit:** No