

# Neuroscience

The Neuroscience Graduate Program at UC Berkeley is a unique, diverse PhD training program that offers intensive, integrated training in multiple areas of neuroscience research.

The program involves more than 70 faculty from different campus departments, with expertise ranging from molecular and cellular neuroscience to developmental neuroscience, systems and computational neuroscience, and human cognitive neuroscience.

We provide a highly interdisciplinary, intellectually dynamic training environment of coursework, research training, and mentoring, within a strong research program that produces fundamental advances in knowledge and cutting-edge techniques.

## Admission to the University

### Minimum Requirements for Admission

The following minimum requirements apply to all graduate programs and will be verified by the Graduate Division:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A grade point average of B or better (3.0);
3. If the applicant has completed a basic degree from a country or political entity (e.g., Quebec) where English is not the official language, adequate proficiency in English to do graduate work, as evidenced by a TOEFL score of at least 90 on the iBT test, 570 on the paper-and-pencil test, or an IELTS Band score of at least 7 on a 9-point scale (note that individual programs may set higher levels for any of these); and
4. Sufficient undergraduate training to do graduate work in the given field.

### Applicants Who Already Hold a Graduate Degree

The Graduate Council views academic degrees not as vocational training certificates, but as evidence of broad training in research methods, independent study, and articulation of learning. Therefore, applicants who already have academic graduate degrees should be able to pursue new subject matter at an advanced level without the need to enroll in a related or similar graduate program.

Programs may consider students for an additional academic master's or professional master's degree only if the additional degree is in a distinctly different field.

Applicants admitted to a doctoral program that requires a master's degree to be earned at Berkeley as a prerequisite (even though the applicant already has a master's degree from another institution in the same or a closely allied field of study) will be permitted to undertake the second master's degree, despite the overlap in field.

The Graduate Division will admit students for a second doctoral degree only if they meet the following guidelines:

1. Applicants with doctoral degrees may be admitted for an additional doctoral degree only if that degree program is in a general area of knowledge distinctly different from the field in which they earned their original degree. For example, a physics PhD could be admitted to a doctoral degree program in music or history; however, a student with

a doctoral degree in mathematics would not be permitted to add a PhD in statistics.

2. Applicants who hold the PhD degree may be admitted to a professional doctorate or professional master's degree program if there is no duplication of training involved.

Applicants may apply only to one single degree program or one concurrent degree program per admission cycle.

## Required Documents for Applications

1. **Transcripts:** Applicants may upload *unofficial* transcripts with your application for the departmental initial review. *If the applicant is admitted*, then *official* transcripts of all college-level work will be required. Official transcripts must be in sealed envelopes as issued by the school(s) attended. If you have attended Berkeley, upload your unofficial transcript with your application for the departmental initial review. *If you are admitted*, an official transcript with evidence of degree conferral *will not* be required.
2. **Letters of recommendation:** Applicants may request online letters of recommendation through the online application system. Hard copies of recommendation letters must be sent directly to the program, not the Graduate Division.
3. **Evidence of English language proficiency:** All applicants who have completed a basic degree from a country or political entity in which the official language is not English are required to submit official evidence of English language proficiency. This applies to institutions from Bangladesh, Burma, Nepal, India, Pakistan, Latin America, the Middle East, the People's Republic of China, Taiwan, Japan, Korea, Southeast Asia, most European countries, and Quebec (Canada). However, applicants who, at the time of application, have already completed at least one year of full-time academic course work with grades of B or better at a US university may submit an official transcript from the US university to fulfill this requirement. The following courses will not fulfill this requirement:

- courses in English as a Second Language,
- courses conducted in a language other than English,
- courses that will be completed after the application is submitted, and
- courses of a non-academic nature.

If applicants have previously been denied admission to Berkeley on the basis of their English language proficiency, they must submit new test scores that meet the current minimum from one of the standardized tests. Official TOEFL score reports must be sent directly from Educational Test Services (ETS). The institution code for Berkeley is 4833. Official IELTS score reports must be sent electronically from the testing center to University of California, Berkeley, Graduate Division, Sproul Hall, Rm 318 MC 5900, Berkeley, CA 94720. TOEFL and IELTS score reports are only valid for two years.

## Where to Apply

Visit the Berkeley Graduate Division application page (<http://grad.berkeley.edu/admissions/apply/>).

## Admission to the Program

Applicants to the program should have a bachelor's degree from a four-year college and at least one year of laboratory experience.

The Graduate Record Examination (GRE) General Test is optional. For more information on our program requirements go to: <https://neuroscience.berkeley.edu/phd-applications/>.

## Normative Time Requirements

### Normative Time to Advancement

#### Step I: Lab Rotations and Presentations

During the first year of graduate study, each neuroscience graduate student spends three 10-week periods performing research projects in different faculty laboratories. The goal is to expose students to different techniques and approaches in neuroscience and to provide training in experimental design, critical analysis of data, and presentation of research findings. Performance in rotations is evaluated and graded. Rotations also allow students to identify the laboratory in which their thesis research will be performed. During the first-year students also take Neurosci 290A/B Methods & Career Skills Classes which introduce a broad range of modern neuroscience research methods in didactic lectures and provide advising in initial career skills. Neurosci 290A (Fall) includes a survey of cutting-edge research methods, advising on how to choose a thesis mentor, training in scientific rigor and reproducibility, and an introduction to the use and misuse of statistics in neuroscience research. Neurosci 290B (Spring) includes in-depth training on how to give a top-notch scientific talk, advising on how to write effective research papers, and on scientific project management.

#### Step II: Qualifying Exam

Students complete an oral qualifying exam during the spring semester of Year 2. This exam is structured around two written proposals—one in the student's proposed area of thesis research, and the other in an area of neuroscience outside the thesis topic. During the exam, a faculty committee tests the student's knowledge of these areas and general neuroscience. Students must demonstrate the ability to recognize important research problems, propose relevant experimental approaches, and display comprehensive knowledge of relevant subjects. Students must pass the qualifying examination before advancing to doctoral candidacy.

### Normative Time in Candidacy

#### Step III: Dissertation

Students undertake research for the PhD dissertation under a four-person committee in charge of their research and dissertation. Students do original research using a wide variety of cutting-edge neuroscience methods. The students then write a dissertation based on the results of this research. On completion of the research and approval of the dissertation by the committee, the students are awarded the doctorate.

### Total Normative Time

Total normative time is 5.7 years.

## Time to Advancement

### Curriculum

#### One Graduate Course in Each of the Following Three Foundational Areas

Students can either take one graduate-level course from each category, or three graduate level courses from two areas, plus a selected advanced undergraduate course from a third area. They are taken in years 1–2. Courses offered will vary depending on the semester. The courses below are samples of courses that fulfill the area requirements.

## 1. Cellular, Molecular and Developmental Neuroscience

#### Choose one:

MCELLBI 231	Advanced Developmental and Stem Cell Biology	4
MCELLBI 236	Advanced Mammalian Physiology	5
MCELLBI 240	Advanced Genetic Analysis	4
NEUROSC C261	Cellular and Developmental Neurobiology	3

## 2. Systems and Computational Neuroscience

#### Choose one:

PSYCH 210B	Proseminar: Cognition, Brain, and Behavior	3
VIS SCI 265	Neural Computation	3
NEUROSC C262	Circuit and Systems Neurobiology	3

## 3. Cognition, Brain and Behavior

#### Choose one:

PSYCH 117	Human Neuropsychology	3
PSYCH C127	Cognitive Neuroscience	3
PSYCH 210A	Proseminar: Cognition, Brain, and Behavior	3
PSYCH 210D	Course Not Available	3
PSYCH 214	Functional MRI Methods	3
PSYCH 240A	Proseminar: Biological, Cognitive, and Language Development	3
PB HLTH C217D	Biological and Public Health Aspects of Alzheimer's Disease	3
VIS SCI 262	Visual Cognitive Neuroscience	3

### One Graduate Elective Seminar Course

Students must take one additional elective course. This can be either a graduate-level seminar or graduate-level lecture course, and can be 1 unit or more. This is typically taken in years three-four. You may also select a foundation course as an elective. Consult your thesis adviser and thesis committee to select the most appropriate course for you.

#### Neuro-Related Seminar Courses

EL ENG 290A	Advanced Topics in Electrical Engineering: Advanced Topics in Computer-Aided Design	1-3
EL ENG 290B	Advanced Topics in Electrical Engineering: Advanced Topics in Solid State Devices	1-3
EL ENG 290C	Advanced Topics in Electrical Engineering: Advanced Topics in Circuit Design	1-3
EL ENG 290D	Advanced Topics in Electrical Engineering: Advanced Topics in Semiconductor Technology	1-3
EL ENG 290F	Advanced Topics in Electrical Engineering: Advanced Topics in Photonics	1-3
EL ENG 290N	Advanced Topics in Electrical Engineering: Advanced Topics in System Theory	1-3
EL ENG 290O	Advanced Topics in Electrical Engineering: Advanced Topics in Control	1-3
EL ENG 290P	Advanced Topics in Electrical Engineering: Advanced Topics in Bioelectronics	1-3
EL ENG 290Q	Advanced Topics in Electrical Engineering: Advanced Topics in Communication Networks	1-3
EL ENG 290S	Advanced Topics in Electrical Engineering: Advanced Topics in Communications and Information Theory	1-3

EL ENG 290T	Advanced Topics in Electrical Engineering: Advanced Topics in Signal Processing	1-3
EL ENG 290Y	Advanced Topics in Electrical Engineering: Organic Materials in Electronics	3
LINGUIS 290A	Topics in Linguistic Theory: Syntax	3
LINGUIS 290B	Topics in Linguistic Theory: Semantics	3
LINGUIS 290D	Topics in Linguistic Theory: Pragmatics	3
LINGUIS 290E	Topics in Linguistic Theory: Phonology	3
LINGUIS 290F	Topics in Linguistic Theory: Diachronic Linguistics	3
LINGUIS 290H	Topics in Linguistic Theory: Linguistic Reconstruction	3
LINGUIS 290L	Additional Seminar on Special Topics to Be Announced	3
LINGUIS 290M	Topics in Linguistic Theory: Psycholinguistics	3
MCELLBI 290	Graduate Seminar	1
PSYCH 290B	Seminars: Biological	2
PSYCH 290E	Seminars: Perception	2
PSYCH 290H	Seminars: Developmental	2
PSYCH 290I	Seminars: Personality	2
PSYCH 290J	Seminars: Social	2
PSYCH 290K	Seminars: Clinical	2
PSYCH 290P	Course Not Available	2
PSYCH 290Q	Seminars: Cognition	2
PSYCH 290Z	Seminars	1-3
VIS SCI 298	Group Studies, Seminars, or Group Research	1-6
<b>Statistics</b>		
PSYCH 102	Methods for Research in Psychological Sciences	3
PSYCH 205	Data Analysis	3
STAT 150	Stochastic Processes	3
STAT 151A	Linear Modelling: Theory and Applications	4
STAT 153	Introduction to Time Series	4
STAT 204	Probability for Applications	4
STAT C241A	Statistical Learning Theory	3
STAT C241B	Advanced Topics in Learning and Decision Making	3
STAT 248	Analysis of Time Series	4
<b>Mathematics</b>		
MATH 118	Fourier Analysis, Wavelets, and Signal Processing	4
MATH 220	Introduction to Probabilistic Methods in Mathematics and the Sciences	4
<b>Computer Science and Programming</b>		
COMPSCI C280	Computer Vision	3
<b>Electrical Engineering</b>		
EL ENG 120	Signals and Systems	4
EL ENG 123	Digital Signal Processing	4
EL ENG 126	Probability and Random Processes	4
EL ENG 221A	Linear System Theory	4
EL ENG 225A	Course Not Available	3
EL ENG 225B	Course Not Available	3
EL ENG 226A	Random Processes in Systems	4
EL ENG 229A	Information Theory and Coding	3
<b>Bioengineering</b>		
BIO ENG C218	Stem Cells and Directed Organogenesis	3
BIO ENG C219	Protein Engineering	3

BIO ENG 231	Introduction to Computational Molecular and Cellular Biology	4
BIO ENG 243	Computational Methods in Biology	4
BIO ENG 263	Principles of Molecular and Cellular Biophotonics	4
BIO ENG C265	Principles of Magnetic Resonance Imaging	4

**Vision Science**

VIS SCI 212E	Course Not Available	2
VIS SCI 212F	Course Not Available	2
VIS SCI 212G	Course Not Available	2

**Other Degree Requirements**

Pedagogy course

NEUROSC 290	Neuroscience First Year Research	2
NEUROSC 294	Neuroscience Graduate Student Presentation Seminar	1

Students must also complete a 1-semester course in Applied Statistics in Neuroscience, or an equivalent approved course in statistics or quantitative analysis methods.

**Time in Candidacy****Dissertation Presentation/Formal Exit Seminar**

There is no formal defense of the completed dissertation. Neuroscience students are required to publicly present a thesis seminar about their dissertation research in their final year.

**Required Professional Development Presentations**

During their fourth year of study, students are required to make a presentation on the progress of their thesis work while enrolling in NEUROSC 294 (Neuroscience Graduate Student Presentation Seminar), a journal club, for a letter grade.

**Teaching**

Neuroscience students are required to serve as graduate student instructors (GSIs) for two semesters. Whenever possible, GSI assignments are determined with an eye toward student research interests. Teaching occurs during fall semester of the second year and spring semester of the third. Teaching affords students supervised experience in a variety of educational situations, including labs, discussion sections, and demonstrations. GSIs also participate in record-keeping, grading, advising, and student consultations.

GSIs are evaluated by both supervising faculty and the students they teach. These evaluations become a permanent part of the student file. Deserving GSIs are nominated for the Outstanding Graduate Student Instructor Award.

**Neuroscience**

Expand all course descriptions [+]Collapse all course descriptions [-]

## NEUROSC C217D Biological and Public Health Aspects of Alzheimer's Disease 3 Units

Terms offered: Spring 2017, Spring 2015, Spring 2014, Spring 2013

This course will survey the field of Alzheimer's disease (AD) from a biological and public health perspective by reading original research papers in the fields of medicine, neuroscience, and epidemiology. The course will begin with a historical survey of the concept of AD, followed by a description of clinical and neuropathological features. Subsequent classes will cover the genetics and molecular biology of the disease, as well as biomarkers, epidemiology, risk factors, treatment, development of new diagnostic approaches, and ethical issues. The course will also serve as a model for the analysis of complex diseases with multiple genetic and environmental causes, and late onset neurodegenerative diseases. The course will also serve as a model for the analysis of complex diseases with multiple genetic and environmental causes and late-onset neurodegenerative disease.

Biological and Public Health Aspects of Alzheimer's Disease: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Graduate standing or consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

**Instructor:** Jagust

**Also listed as:** PB HLTH C217D

Biological and Public Health Aspects of Alzheimer's Disease: Read Less [\[-\]](#)

## NEUROSC C261 Cellular and Developmental Neurobiology 3 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

This course covers the molecular/cellular basis of neuron excitability (membrane potentials, action potential generation and propagation, ion channels), synaptic transmission and plasticity, sensory receptor function, and developmental neurobiology.

Cellular and Developmental Neurobiology: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

**Also listed as:** MCELLBI C261

Cellular and Developmental Neurobiology: Read Less [\[-\]](#)

## NEUROSC C262 Circuit and Systems Neurobiology 3 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020

Advanced coverage of current research problems in systems-level neuroscience, and experimental and computational techniques used for these studies.

Circuit and Systems Neurobiology: Read More [\[+\]](#)

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

**Also listed as:** MCELLBI C262

Circuit and Systems Neurobiology: Read Less [\[-\]](#)

## NEUROSC C265 Neural Computation 3 Units

Terms offered: Prior to 2007

This course provides an introduction to the theory of neural computation. The goal is to familiarize students with the major theoretical frameworks and models used in neuroscience and psychology, and to provide hands-on experience in using these models. Topics include neural network models, supervised and unsupervised learning rules, associative memory models, probabilistic/graphical models, and models of neural coding in the brain.

Neural Computation: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Calculus, differential equations, basic probability and statistics, linear algebra, and familiarity with high level programming languages such as Matlab

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

**Instructor:** Olshausen

**Also listed as:** VIS SCI C265

Neural Computation: Read Less [\[-\]](#)

## NEUROSC 290 Neuroscience First Year Research 2 Units

Terms offered: Spring 2017, Spring 2016, Spring 2015

Seminar on the presentation and evaluation of research results for first-year neuroscience graduate students. During the first weeks, faculty present their research (FERPS); later, students present individual research results and evaluate their own and each other's work. Course enrollment limited to 15.

Neuroscience First Year Research: Read More [a+]

### Rules & Requirements

**Prerequisites:** Graduate standing in Neuroscience Graduate Group; concurrent enrollment in 291A-291B

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

**Instructor:** Ngai

Neuroscience First Year Research: Read Less [-]

## NEUROSC 290A Neuroscience Research Design and Analysis 1 Unit

Terms offered: Fall 2022, Fall 2021, Fall 2020

Professional core competency training for graduate students involved in neuroscience research at Berkeley. Includes survey of modern research methods, and professional skills including principles of experimental design and data reproducibility.

Neuroscience Research Design and Analysis: Read More [a+]

### Rules & Requirements

**Prerequisites:** Restricted to 1st year PhD students in Neuroscience-related PhD Programs (Neuroscience PhD Program, MCB PhD Program, Psychology PhD Program, Biophysics PhD Program), or permission of instructor

### Hours & Format

**Fall and/or spring:** 8 weeks - 1.5 hours of lecture per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Feldman, Neuroscience Graduate Advisors, Guest faculty speakers

Neuroscience Research Design and Analysis: Read Less [-]

## NEUROSC 290B Neuroscience Career Skills 1 Unit

Terms offered: Spring 2022, Spring 2021, Spring 2020

Professional core competency training for graduate students involved in neuroscience research at Berkeley. Includes training in giving scientific presentations, scientific writing, and project management.

Neuroscience Career Skills: Read More [a+]

### Rules & Requirements

**Prerequisites:** Restricted to 1st year PhD students in Neuroscience-related PhD Programs (Neuroscience PhD Program, MCB PhD Program, Psychology PhD Program, Biophysics PhD Program), or permission of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Feldman, Neuroscience Graduate Advisors, Guest faculty speakers

Neuroscience Career Skills: Read Less [-]

## NEUROSC 291A Neuroscience Introduction to Research 4 - 12 Units

Terms offered: Fall 2022, Fall 2021, Fall 2020

Closely supervised, intensive laboratory experimental research under the direction of an individual faculty member. For first-year neuroscience graduate students, this course will provide an introduction to experimental methods and research approaches in the different areas of neuroscience. Grade awarded on completion of sequence, which includes 3 ten-week laboratory rotations spread out over the fall and spring semesters.

Neuroscience Introduction to Research: Read More [a+]

### Rules & Requirements

**Prerequisites:** Graduate standing in Neuroscience Graduate Group; consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 20-40 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade. This is part one of a year long series course. A provisional grade of IP (in progress) will be applied and later replaced with the final grade after completing part two of the series.

**Instructor:** Ngai

Neuroscience Introduction to Research: Read Less [-]



## NEUROSC 291B Neuroscience Introduction to Research 4 - 12 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020

Closely supervised, intensive laboratory experimental research under the direction of an individual faculty member. For first-year neuroscience graduate students, this course will provide an introduction to experimental methods and research approaches in the different areas of neuroscience. Grade awarded on completion of sequence, which includes 3 ten-week laboratory rotations spread out over the fall and spring semesters.

Neuroscience Introduction to Research: Read More [+]

### Rules & Requirements

**Prerequisites:** Graduate standing in Neuroscience Graduate Group; consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 20-40 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade. This is part two of a year long series course. Upon completion, the final grade will be applied to both parts of the series.

**Instructor:** Ngai

Neuroscience Introduction to Research: Read Less [-]

## NEUROSC 292 Neuroscience Graduate Research 3 - 12 Units

Terms offered: Fall 2022, Summer 2022 10 Week Session, Spring 2022

For graduate students in neuroscience in their second or later years. During the summer, the course will count for 3-6 units. Individual research under faculty supervision. In this course each graduate student conducts basic thesis and dissertation research after successful completion of the first-year laboratory rotation, Neuroscience 291A-291B. Laboratory work provides the basis for students' thesis research, preparation for the preliminary examination, and continued progress toward completion of Ph.D. dissertation.

Neuroscience Graduate Research: Read More [+]

### Rules & Requirements

**Prerequisites:** Graduate standing in the Neuroscience Graduate Group; advanced approval from instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 10-40 hours of laboratory per week

**Summer:** 10 weeks - 15-60 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

Neuroscience Graduate Research: Read Less [-]

## NEUROSC 293 Neuroscience Research Review 2 Units

Terms offered: Spring 2009, Fall 2008, Spring 2008

For graduate students in neuroscience in their second or later years.

Two hours of seminar per week which complements the individual laboratory work under faculty supervision. Seminar will review current scientific literature and discuss original research performed by faculty, postdoctoral fellows, scientists, and graduate students in individual faculty laboratories.

Neuroscience Research Review: Read More [+]

### Rules & Requirements

**Prerequisites:** Concurrent enrollment in 292; graduate standing in the neuroscience program; consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Summer:

6 weeks - 5 hours of seminar per week

8 weeks - 3.5 hours of seminar per week

10 weeks - 3 hours of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

Neuroscience Research Review: Read Less [-]

## NEUROSC 294 Neuroscience Graduate Student Presentation Seminar 1 Unit

Terms offered: Fall 2022, Spring 2022, Fall 2021

This course will encompass three important facets of graduate education in the neurosciences: 1) Development of research presentation skills: fourth and fifth year graduate students will present seminars based on their ongoing dissertation research. Preparation and critiques of presentations will focus on organization of conceptual issues, data presentation, and summarization. 2) Exposure to current topics in neuroscience: faculty speakers will present on current issues and topics relevant to scientific development in the neurosciences, such as technical methods, application of analytical and statistical techniques, and organization and preparation of competitive fellowship and other grant applications. 3) Seminar preparation: a crucial aspect of graduate education is the interaction of students with invited seminar speakers - who are often leaders in their fields. A selected number of class meetings will be devoted to the review of scientific articles published by upcoming seminar speakers and/or other related articles in the field.

Neuroscience Graduate Student Presentation Seminar: Read More [+]

### Rules & Requirements

**Prerequisites:** Graduate student standing

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

Neuroscience Graduate Student Presentation Seminar: Read Less [-]

## NEUROSC 299 Seminars 1 - 3 Units

Terms offered: Spring 2022, Fall 2021, Spring 2021

Course that focuses on topical subjects in specific fields of neuroscience.

Seminars: Read More [+]

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-3 hours of seminar per week

### Additional Details

**Subject/Course Level:** Neuroscience/Graduate

**Grading:** Letter grade.

Seminars: Read Less [-]