NSC 301: Senior Seminar (Neuroscience)
Spring 2026
Mondays & Wednesdays, 9:00 – 9:50 AM
Hylan Building Room# 306

Instructor	Professor Manuel Gomez-Ramirez
Office hours	By appointment (Office: Meliora Hall 317, in the department of Brain and Cognitive Sciences) Email: mgomezra@ur.rochester.*edu*
Course primary objectives	(1) Enhance critical thinking skills for evaluating and interpreting data in neuroscience research (2) Strengthen scientific communication skills, including written and oral presentation of neuroscience research findings
Attendance policy	Class participation is an important part of this course and comprises 20% of your final grade. Your participation grade will be based on both attendance and involvement in class discussions (e.g., asking questions, and providing helpful feedback to peers after student presentations). If you miss a class due to an excusable reason, you must notify the instructor via email 24-hours in advance, and provide documentation. Failure to notify the instructor in advance of an absence will result in a 2% deduction of your final grade for each class missed. If you are unable to attend class due to sudden illness or a medical emergency, you must provide a note from a physician later to avoid deduction.
Reading	Students are required to prepare a slide presentation for the class and write a scientific-style manuscript. Accordingly, students are expected to read and critically evaluate multiple research papers relevant to the course assignments.
Presentations	Each student will deliver a 30-minute presentation to the class on a primary research article. The article must be selected by the student and approved by the instructor. The chosen article must be emailed to the instructor at least two weeks prior to the scheduled presentation date. Opinion, perspective, and review articles will not be permitted. Following the main presentation, the student will give a ~10-minute follow-up presentation proposing a logical next study. In this portion, the student should: • Identify a clear gap in knowledge or limitation of the original study

- Motivate why this gap is important
- Describe an experimental design that directly addresses the issue

After the presentation, a panel of 2–4 students will deliberate for approximately 5 minutes outside of class, and then provide structured feedback to the presenter, focusing on the clarity, organization, and scientific content of the presentation.

Presentation grades will be based on a combination of the instructor's evaluation and the panel's evaluation. As part of the participation component of the course, all students are expected to ask questions and engage in discussion. Accordingly, students are required to read the assigned article in advance of each presentation in order to prepare thoughtful questions and contribute meaningfully to the discussion.

Writing

All students are required to write a manuscript modeled after a scientific research paper, formatted according to APA style. The manuscript must include the following sections: Abstract, Introduction, Results, and Discussion, along with a complete References section.

Students will be assigned to small groups based on shared research interests. Within these groups, students will work collaboratively to develop an experimental design aimed at testing a specific hypothesis. The instructor will generate a dataset for each group, which students will analyze and use to support or reject their hypothesis in the written manuscript.

Throughout the course, students will participate in small-group (breakout) sessions to provide structured feedback on their peers' writing. Both the quality of feedback and level of engagement during these sessions will contribute to the class participation grade. Students are required to submit their peer feedback in written form.

Written assignments must be submitted through Blackboard, and assignments submitted after the deadline will incur a 10% penalty per day they are late.

Grading

Grades will be based on the student's research presentation, written manuscript, and class participation, including engagement in discussion.

Manuscript = 40%

Student presentation = 40%

Class participation = 20%

Email list	You can post messages to the class in Blackboard's Discussion Board
Academic honesty	Any student suspected of cheating on a presentation or written assignment will be referred to the Board on Academic Honesty for investigation and possible penalties. Any evidence of duplication or plagiarism (e.g., copying someone else's writing, or failing to cite the work, ideas, or writings of someone else, and presenting it as your own) will be referred to the Board on Academic Honesty
Learning assistance	Students who require assistance in learning should contact Center for Excellence in Teaching and Learning (CETL), located at 1-154 Dewey Hall. Call them at (585) 275-9049, email at cetl@rochester.edu, or visit them at www.rochester.edu/college/cetl
Writing assistance	Students who need assistance with writing can make an appointment with a writing consultant or fellow at the Writing, Speaking, and Argument Program. For more information, visit writing.rochester.edu, call them at (585) 273-3577, or email them at wsap@ur.rochester.edu

Course schedule:

Wednesday, January 21st	Introductions, course description, and general logistics of the course
Friday, January 23rd (in-lieu of Monday's January 19th holiday)	*Lecture 1:* Delivering an effective presentation
Monday, January 26th	*Lecture 2:* Writing a scientific paper for peer-review publication
Wednesday, January 28th	*Lecture 3:* Designing experiments and presenting data Defining research topics for mock experiment
Monday, February 2nd	*Breakout groups (3 to 4 groups max):* Designing the mock experiment

Wednesday, February 4th	Group presentation of the mock experiment to the class (*10 minutes maximum per group*)
Monday, February 9th	Reviewing experimental design of the mock experiment Going through the simulated data
Wednesday, February 11th	Student Presentation #1: Keira Donnelly
Monday, February 16th	Student Presentation #2: Lamiah Siddiq
Wednesday, February 18th	Student Presentation #3: Caitlin Lipton
Monday, February 23rd	Student Presentation #4: Talia Proweller
Wednesday, February 25th	Student Presentation #5: Rachel Jang
Monday, March 2nd	Student Presentation #6: Varuni Hazra
Wednesday, March 4th	Student Presentation #7: Esther Lee
Monday, March 9th	No Class Spring Break
Wednesday, March 11th	No Class Spring Break
Monday, March 16th	Student Presentation #8: Stephen Platt
Wednesday, March 18th	***Introduction and Methods sections of the research paper are due by 8am*** *(upload to blackboard, and bring a copy to class)* *Breakout groups:* Reviewing the Introduction and Methods sections with peers (*written feedback is required*) Q & A session with instructor
Monday, March 23rd	Student Presentation #9: Minha Kang

Wednesday, March 25th	Workshop on data analyses and data presentation for the research paper
Monday, March 30th	Student Presentation #10: Drew Bateman
Wednesday, April 1st	Student Presentation #11: Nikki Agrawal
Monday, April 6th	Student Presentation #12: Siddarth Madhusudan
Wednesday, April 8th	***Results section of the research paper is due by 8am*** *(upload to blackboard, and bring a copy to class)* *Breakout groups:* Reviewing Results section with peers (*written feedback is required*) Q & A session with instructor
Monday, April 13th	Student Presentation #13: Hanadi Tajir
Wednesday, April 15th	Student Presentation #14: Diya Kumar
Monday, April 20th	Student Presentation #15: Olivia Hawkes
Wednesday, April 22nd	Student Presentation #16: Vanessa Yang
Monday, April 27th	Student Presentation #17: Elizabeth Ginsburg
Wednesday, April 29th	***Abstract and Discussion sections of the research paper are due by 8am*** *(upload to blackboard, and bring a copy to class)* *Breakout groups:* Reviewing Abstract and Discussion sections with peers (*written feedback is required*) Final Q & A session with instructor

The final draft of the research paper is due on May 5th