

# Introduction to Neuroscience



Department of Psychology & Neuroscience  
11:15-12:05, MWF  
Fall 201X  
Course Syllabus

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Instructor  
Dr. Marsha Penner  
mpenner@email.unc.edu

Office Hours: Please use the Sakai 'Sign-up' tool to reserve a time slot  
Office location: Davie Hall XXX

## Instructional Assistants

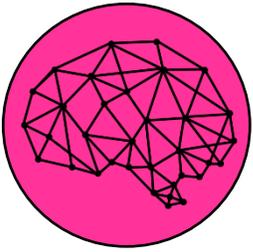
XXX XXX: Office Location  
Davie Hall XXX

*Contacting us with your questions: We are going to use a course Piazza site. This site allows you to send private messages to your IAs, and you can also pose general questions to the class regarding course content or logistics. Using this tool allows us to respond to common questions for all to see. We tend to hear similar questions often. By checking in at the Piazza site, and asking your questions there, we can ensure that you get a response quickly. Often other students in the class have the answers you need, and will respond quickly. See the Sakai site for instructions to access the site.*

*If you have questions that you would prefer to communicate via email, please use the 'Message' tool on the Sakai site to ensure that you get the quickest response (use the dropdown menu to select 'Instructor role' as recipient).*

*Office hours: Please use the "Sign up" tool on Sakai to book your very own time slot! This alerts us that YOU are coming to office hours, allowing us to prepare for your booked time (e.g., pull your exams to look at). It will also help us get to know you and associate a face with a name! Finally, the sign up tool also allows us to contact you personally, should we need to re-schedule in case of an emergency.*

# COURSE DESCRIPTION



Neuroscience is a field that seeks to understand the structure and function of the nervous system and brain. This course is intended for undergraduate students interested in understanding the molecular, cellular, behavioral, and computational mechanisms of the brain. Prerequisite: PSYC 101 or BIOL 101

# COURSE LEARNING OUTCOMES



Describe methods used in neuroscience research



Explain and apply concepts related to experimental design



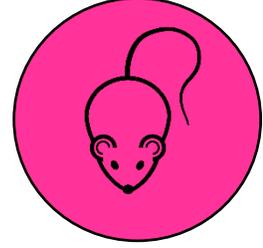
Describe the cellular and gross anatomy of the nervous system



Explain how neurons communicate



Compare and contrast the organization and function of multiple sensory systems



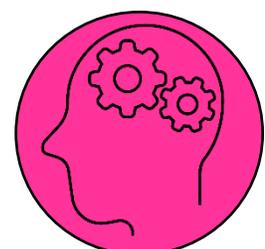
Explain the importance and usefulness of animal models in neuroscience



Describe the neural basis of emotions, aggression, stress, and anxiety and affective disorders



Explain how the brain regulates sleep and wakefulness



Describe the neurobiological basis of learning, memory and memory disorders (e.g., Alzheimer's disease)

# This is an active learning class!

We are going to use class time engaging in active-learning activities (e.g. problem-solving, discussion, etc.). Important concepts will be introduced via the pre-assigned readings and short videos. Specific learning outcomes for each 'Unit' can be found on Sakai in the 'Lessons' tool. During class you will come prepared to use what you have learned by putting larger conceptual ideas together. This approach is a lot more fun than sitting passively listening to me lecture! And besides being fun, you will have many opportunities in class to work through concepts that are giving you trouble. This means that you will need to make sure you come to class prepared to be an active learner. An abundance of research clearly demonstrates that this method of learning is more effective than a traditional lecture-based class. Regular attendance and class participation are expected. Remember that you are responsible for your

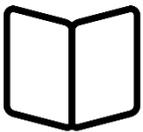
## Prepare for class by following these steps

1. Complete the assigned readings, assignments, and videos *before* class.
2. Do the timed online quizzes to assess your reading comprehension.
3. Identify the concepts that you are having difficulty with so that you can work through these concepts with me, your IAs, and your peers. *Please remember that we are all here to make sure that you succeed in this class! If you are having trouble, please see one of us for help.*

## WHAT YOU SHOULD BRING TO CLASS EVERY DAY:

1. A laptop or notebook for note taking. *Note: educational research shows that students learn more by handwriting notes!*
2. Extra blank paper for drawings, notes, activities etc.
3. 3 x 5 index cards.
4. Your laptop/tablet/smartphone enabled for UNC wi-fi access.

## COURSE RESOURCES



Required Textbook: Bear et al.: Neuroscience: Exploring the Brain. 4<sup>th</sup> edition.



Quizzes, homework, assignments, videos, etc., can be found on the course Sakai site: <https://sakai.unc.edu/>



Have a question? Check the Piazza site! Someone else may have already posted that very question!

For fun!

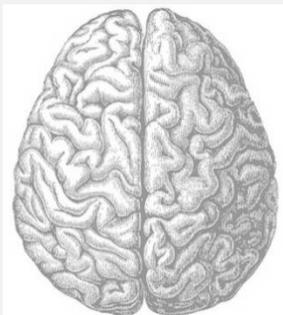


Facebook: search group page 'Introduction to Neuroscience'



Twitter: @awesomeneuron

# How is my final grade determined?



**3%** = PollEverywhere, In-class assignments and Peerwise (lowest 20% of your grade will be dropped)

**12%** = Online Quizzes (drop 3 lowest scores)

**20%** = Writing Assignments (complete 3 of 11 assignments)

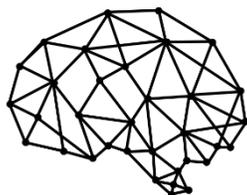
**35%** = Exams (3 in total, drop lowest score)

**30%** = Cumulative Final Exam

The quizzes, exams, assignments, and activities that you will complete in this class are carefully designed to optimize your learning. I use an evidence-based approach when designing classes. This means that I use learning approaches based on scientific evidence that demonstrates the effectiveness of these approaches.

Overall, my aim is to help you progress through Bloom's taxonomy of learning such that you are analyzing, evaluating, and creating information.

Not only is this a lot more fun than memorizing, but you will also be more likely to retain the information!



**PollEverywhere, In-class assignments, and Peerwise:** Points will be earned during class time using PollEverywhere (<https://pollev.com/neurons>). For the first two weeks of class, a response to the Poll will earn one participation point. After that, a correct response to the Poll will continue to earn one point, and an incorrect response will earn half a point. *Please remember to register for PollEverywhere, as unregistered responses cannot earn points.*

We will also assign other in-class assignments to deepen your understanding of course materials, such as case studies or thought questions from your readings. Some of these assignments will be turned in during class time and graded, or assigned as homework for grading. The lowest 20% of your in-class assignment grade will be dropped. We will also be using Peerwise to deepen your understanding of course material. On the Peerwise site, you will write multiple choice questions, and answer and evaluate questions posted by your peers. Research shows that writing test questions is an effective study tool - it requires that you understand the material, and you will begin to anticipate what kinds of questions are likely to appear on the exam. In fact, some questions that appear on each exam may come directly from Peerwise! You will post 3 questions, and answer 3 questions prior to each mid-semester exam (Exams 1, 2, 3) and on the last day of class. By the end of the semester you should have submitted 12 questions, and answered/evaluated 12 questions. You will be graded as follows: 'A' 12 questions posted, 12 question answered and evaluated; 'B' 10 questions posted, 9 questions answered and evaluated; 'C' 8 questions posted, 6 questions answered and evaluated; less than 8 questions posted and evaluated will earn a 'O'.

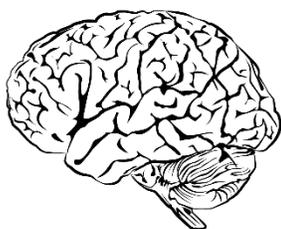


**Quizzes:** Online timed quizzes will be used as a study tool and to assess your learning. These quizzes will help you keep abreast of your reading for the class, and will help you determine if you took away key concepts from the reading. As you read your textbook, take notes in your own words to prepare for the quizzes. Quizzes are due *prior* to the relevant class, closing 1 hour before class begins. Quizzes will include 10 multiple choice questions. *Your lowest 3 quiz scores will be dropped.* **Tip:** Although you are allowed to use your textbook and notes when you take the online quizzes, I recommend that you do them without guidance. The quizzes are meant to serve as a diagnostic tool to help you determine if you understand what you read.



**Writing Assignments:** Extra readings outside of the textbook will be used to deepen your understanding of course materials. There are 11 papers due over the course of the semester. **Out of these 11, you must complete at least 3.** You can choose which papers you would like to complete, but I recommend that you *do not* leave all of your papers to the end of the semester. Consult the course schedule (below) to view the topics for the papers. In the 'Unit' tool on Sakai you can access the paper (check the syllabus to find the correct 'Unit'). Additional instructions and a detailed rubric can be found on Sakai. A few policies to note:

- Because there are MANY deadlines, there are NO EXTENSIONS for any reason.
- No emailed or hardcopy papers will be graded. You must submit your work on Sakai.
- Submit your assignments to the correct assignment link. We will only grade assignments that have been submitted to the correct link by the deadline.
- Plagiarism is an Honor Code Violation that we are required to report. I have uploaded a document in 'Resources' on the Sakai site that outlines what is considered plagiarism and what steps you can take to avoid it.



**Exams:** There will be 3 in-class exams, and a cumulative final exam. Each in-class exam will cover assigned materials since the previous exam. Exams will consist of multiple choice questions. Note that the final exam is weighted more heavily than the mid-term exams, reflecting the fact that it will be cumulative. If you do miss an exam during the regular semester, please come see one of us to go over the missed exam so that you are prepared for the final. **Final Exam Schedule:** We are required to have our final exam on Tuesday, **December 12 at 12:00pm**. If you have two exams at the same time or three exams within 24 hours and you want to reschedule the exam, please see an academic advisor for an exam excuse form.

#### Letter Grade Assignments

A = 94-100  
A- = 90-93  
B+ = 87-89  
B = 84-86  
B- = 80-83

C+ = 77-79  
C = 74-76  
C- = 70-73  
D+ = 67-69  
D = 60-66

F = 0-59

\* Final grades are rounded (.4 down and .5 up). For example 89.4 = 89/B+; 89.5 = 90/A-.

# What do these grades mean?



Here is an explanation of grades from the Undergraduate Bulletin (<http://www.catalog.unc.edu/policies-procedures/attendance-grading-examination/>):

- A Mastery of course content at the highest level of attainment** that can reasonably be expected of students at a given stage of development. The A grade states clearly that the student has shown such outstanding promise in the aspect of the discipline under study that he/she may be strongly encouraged to continue.
- B Strong performance demonstrating a high level of attainment** for a student at a given stage of development. The B grade states that the student has shown solid promise in the aspect of the discipline under study.
- C A totally acceptable performance demonstrating an adequate level of attainment** for a student at a given stage of development. The C grade states that while not yet showing any unusual promise, the student may continue to study in the discipline with reasonable hope of intellectual development.
- D A marginal performance in the required exercises demonstrating a minimal passing level of attainment** for a student at a given stage of development. The D grade states that the student has given no evidence of prospective growth in the discipline; an accumulation of D grades should be taken to mean that the student would be well advised not to continue in the academic field.
- F For whatever reasons, an unacceptable performance.** The F grade indicates that the student's performance in the required exercises has revealed almost no understanding of the course content. A grade of F should warrant questioning whether the student may suitably register for further study in the discipline before remedial work is undertaken.

## ACADEMIC INTEGRITY

All work that you do for this class must be completed according to the UNC Honor Code. You will maintain confidentiality of examinations, and during exams, you will refrain from: looking at another person's exam; talking to anyone, either in person, by cell phone, or email; using the Internet, or any other text or notes. Please report any and all violations that you observe. It is your responsibility to come see us if you are not sure what constitutes plagiarism or have any questions about the Honor Code. If you have not done so previously, please review the academic code at UNC at [http://integrity.unc.edu/hc\\_handout.html](http://integrity.unc.edu/hc_handout.html). All suspected cases of academic misconduct must be reported to the Office of the Dean of Students, and thus we are compelled to do so if we suspect academic misconduct of any kind.



## DIGITAL ETIQUETTE



It will be necessary to use a digital device during class time. Please be respectful of your classmates and restrict your use to course content. Hopefully it will never come to this – but we will ask you to put your device away for the rest of the class, and you will forfeit your participation points for that day if you chose to distract your peers during class time. Your behavior affects everyone around you: I have sat in the back of my classroom and was unable to concentrate because of the distractions on computer screens throughout the classroom.

We are all working as a learning team in class, and we're only as awesome as our weakest link!

Don't let it be you!

## OTHER RESOURCES ON CAMPUS

The Writing Center is a wonderful resource to use if you need some help with your writing and editing skills, and The Learning Center would love to coach you – they have excellent coaching opportunities for things like time management, study skills, and goal setting. Give them a try!



If you experience difficulty during the semester that interferes with your ability to come to class or complete your work, including difficulty securing food or housing, or stress and mental health issues, I urge you to contact the Office of the Dean of Students (in person or by phone 919-966-4042) or Counseling and Psychological Services (in person or by phone 919-966-3658). If the Dean of Students is consulted, they can notify all of your instructors (for all of your classes) at your request. Their services are confidential – so while they may contact your instructors on your behalf to alert them that you are experiencing difficulty, they do not disclose details to your instructors. I am also available to walk you over to Counseling and Psychological Services or the Office of the Dean of Students.

If you require an accommodation, please contact the Office of Accessibility and Resources. If you have accommodations to take exams at the Office of Accessibility Resources, or need other accommodations inside or out of class, please let me know as soon as possible.



**A note from Dr. Penner...** I want you to succeed in this class! You belong here and deserve to be here! I believe that students can THRIVE when: they take full advantage of the breadth and depth of our curriculum, and succeed when they set academic and personal goals, and are empowered to take responsibility for their education, choices, and decisions.

See you in class!

**thrive**  
@CAROLINA