

Biology 270 Introduction to Neuroscience Course Outline

Instructors:

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What we will learn about?

- Cellular/Molecular mechanisms of single neurons
- Neuronal assembly into circuits/networks that give rise to function
- Maintenance/plasticity of functioning networks
- A detailed view of how neurons communicate (electrical and chemical signaling)
- Neurotransmitter systems and receptor-defined neural responses (drug-receptor interactions)
- The molecular signaling cascades inside neurons and their relationships to learning
- A quick look at brain development
- A more detailed account of the signaling and circuit layout of our sensory systems (visual, auditory, chemical, vestibular)
- Sleep and wake
- Memory & Emotion

COURSE REQUIREMENTS:

Reading: *Neuroscience*, fifth edition. Dale Purves, George J. Augustine, David Fitzpatrick, William C. Hall, Anthony-Samuel LaMantia, Leonard E. White, Eds. Sinauer Associates. Other primary sources are in the syllabus.

HW (20% of total grade): There are 5 HW assignments, each worth 10 pts. These assignments take the form of short answer essays, diagrams that you draw or fill in, problem sets, fill in the blank, etc.

Exams (2 exams, combined worth 40% of total grade): 2 written exams based on the lecture material. Non-cumulative BUT As the term progresses new information will be based on information provided previously.

If you are going to miss the exam, one of the instructors has to be contacted in advance, and a written excuse from your doctor or Dean's office has to be produced. Otherwise, you receive a 0 for the exam.

Student Presentations (20% of total grade): Groups of 2 students will put together a scientifically accurate and informative poster, brochure or pamphlet (format depends on your assignment) that you will present to the class. We will be publishing your brochures on CUNY Academic Commons (<https://commons.gc.cuny.edu/>), so please make them visually pleasing. Furthermore, with your permission, we may send your brochures to their intended recipients (see assignments), and they may print and use them, at their discretion.

Effort and Participation (20% of total grade)

You don't log in to class and never take a quizlet: 0%

You log in to class and never participate (never ask or answer questions, never partake in discussion or take quizlet): 5-10%

You log in to class and ask us questions if you don't understand something, bring up an idea you'd like to discuss, speak up if what we are saying isn't making sense to you, ask "what if" questions of your classmates after a presentation, ace quizlet etc: 10-20%

Grade distribution Summary:

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| 2 exams | 40% of final course grade (20% + 20%) |
| Homework Assignments | 20% of final course grade (4 homeworks, 10 pts each) |
| Presentation | 20% of final course grade |
| Effort and Participation | 20% of final course grade |