

PSY 350

Introduction to Neuroscience

Course Time: Tuesdays between 10:40 – 11:30

Course Place: <https://sabanciuniv.zoom.us/j/94774768312> (Meeting ID: 947 7476 8312)

Instructor: Nihan Alp / nihanalp@sabanciuniv.edu

Teaching Assistant: Ilker Duymaz (duymaz@sabanciuniv.edu)

Office Hour: Tuesday 11:40 - 12:40 – please contact me for an appointment and for a change in time if needed.

Course Description: This course is an introduction to the mammalian nervous system in which we will be focusing on the structure and the function of the human brain. As it will cover the basics of neuroscience it does not require any background or knowledge in the field. Topics include the function of the basic units of the nervous system as well as the survey of the basic facts, empirical evidence, theories, and methods of study in neuroscience.

TA: TBA -I will be available online during office hours. Since the whole semester will be online this year, there might be increased demands in participating office hours. To use limited time in maximum efficiency: please book a time slot and send me your questions a day before the office hour.

Structure of the course: This is an online lecture-based course. Each week, the students are expected to watch lectures and participate in discussion hours. There is no one coursebook. There will be occasional readings on some topics from chapters of the science books and some journal articles. There will be two midterms and a final. The final will be cumulative. Each week there will be an hour online discussion class in which I expect you to watch previously uploaded videos before coming to the virtual classroom. If everything in the video recordings is clear, and there is no question at all (!), during this online discussion hour, I will further discuss important parts. You are expected to watch the videos and write your questions down on the excel sheet, latest by Monday. I will check the excel file every Monday at 6 pm. Please use the excel file because I will prioritize answering the written questions during the synchronous hour.

Office Hour and email policies: Asking questions is a key concept in science and questions you have are generally questions that others will have, therefore don't be shy, and please share them in the discussion class. You can e-mail me your questions or just click the link and password. As everything will be online this semester it is important for you to use office hours. **Please email me your question at least one day before, so that we can use the time efficiently.**

What do I expect from you in the class?

Expectations of students: I expect you to:

- keep up with the material covered every week
- watch uploaded video recordings before discussion course

- participate actively and courteously in discussion sessions in the virtual class
- Be there on time. Ask questions, don't be shy. Think critically & discuss.
- abide by the standards of academic honesty
- ask questions and seek help (from instructors and TAs) when something is not clear.
- send an e-mail about your questions before joining the office hour to use the time efficiently
- enjoy learning about the mammalian nervous system!
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Announcements:

- Check the course web pages regularly for announcements, information about exams and review sessions, grades, and changes to the schedule. You are responsible for finding out about this information.

Topics and Readings:

- Week 1 - Introduction (*CHAPTER 1 -Neuroscience -Exploring the Brain 3rd Edition*
<https://www.visionlearning.com/en/library/Inside-Science/58/Santiago-Ram%c3%b3n-y-Cajal-and-Camillo-Golgi/233>)
- Week 2 - The Anatomy of the Nervous System
(CHAPTER 2- Neuroscience -Exploring the Brain 3rd Edition)
- Week 3 - Neural Conduction and Synaptic Transmission
(CHAPTER 3&4 - Neuroscience -Exploring the Brain 3rd Edition)
- Week 4 - Structure and Function of the Brain
(CHAPTER 3&4 - Neuroscience -Exploring the Brain 3rd Edition)
- Week 5 - Measurement Methods in Neuroscience fMRI, EEG, TMS, patch clamp etc. (What we can do and what we cannot do with fMRI (Logothetis, 2008); The steady-state visual evoked potential in vision research: A review (Norcia et. al. 2015))
- Week 6 - Exam 1**
- Week 7 - The Eye (*CHAPTER 9- Neuroscience -Exploring the Brain 3rd Edition*)
- Week 8 - The Central Visual System (*CHAPTER 10- Neuroscience -Exploring the Brain 3rd Edition*)
- Week 9 - Do mirror Neurons Exist? (Rizzolatti et al., Nature Reviews Neuroscience 2, 661-670 (2001); Umiltà et al.: I know what you are doing; Calvo-Merino et al., Cerebral Cortex (2005); <http://psych.colorado.edu/~kimlab/Rizzolatti.annurev.neuro.2004.pdf> Chong et al., (2008); Lingnau, Gesiericha, & Caramazza, (2009))
- Week 10 - No class
- Week 11 - Sleep and Biological Rhythms (*CHAPTER 8 - Foundations of Behavioral Neuroscience, Ninth Edition. Neil R. Carlson.*)
- Week 12 - Exam 2**
- Week 13 - Learning and Memory (*CHAPTER 12 - Foundations of Behavioral Neuroscience, Ninth Edition. Neil R. Carlson.*)

Exams and Grades: There will be three exams, which may include **multiple-choice, short answer**, and an **essay question**. These will cover the material presented in the lecture and the assigned readings.

When I say, “short answer”, I mean it. The correct answer is **short**. The short-answer questions can be answered in a couple of sentences. There will be **only one** makeup exam **which will be given after the final exam and includes all chapters covered during the semester**. If you don’t have any medical report from a doctor, you are responsible for attending the exam. No other excuses will be accepted.

Exam 1 % 25

Exam 2 % 25

Final % 40 (cumulative)

Attendance (% 10): Participation is important. The % 3 will be given if you are physically participating, the % 7 will be added if you are also mentally participating.

Grade Scale: This is an example grade scale I generally follow.

A	A-	B+	B	B-	C+	C	C-	D+	D	F
95	90	85	80	75	70	65	61	58	55	< 50

Research Points: Students can optionally serve as participants in research that is run by Sabancı University researchers. By participating in research, you can get extra credits. For this course, you will be able to earn up to 6 research points (RP) which is equal to three hours of research participation. These 6 RPs will be converted to 3 points added to your final exam grade. More information on the available research projects will be provided during the semester.

You will be able to sign up for the experiments and get your research participation credits through the online Sona system at <http://sabanciuniv.sona-systems.com>

Please, carefully read the Guide for Students: Sabancı University Experiment Credits System (Sona).

The alternative assignment will be given to those who are not willing to participate in any research. The students who choose alternative assignment may need to do different assignments based on the principal investigator (PI) of the course. You can find each study’s PI on the Sona webpage for that study.

Plagiarism policy: I encourage students to work and study together whenever possible. But if you cheat on any assignment, you will receive a grade of **F** for the course.

The act of plagiarism will be considered a fraud and will not be tolerated. Please avoid academic dishonesty at all costs.

Note: The course syllabus provides a general plan for the course. We are committed to following the syllabus, but there is no guarantee that we will. Altering the syllabus may also mean changing the nature or timing of exams/assignments. By continuing in the course after reading the syllabus, you indicate that you accept the terms of the syllabus.