

# **Cognitive Neuroscience**

## **PSY452/552 Course Syllabus Fall 2022**

### **When / Where**

Wed 11:40-12:30 (FASSG006) & Thurs 16:40-18:30 (FASS1089)

### **Instructor**

Eren Günseli, Ph.D. <[eren.gunseli@sabanciuniv.edu](mailto:eren.gunseli@sabanciuniv.edu)>  
Office hours: Please get in touch to schedule an office hour.

### **TA**

Berna Güler <[berna.guler@sabanciuniv.edu](mailto:berna.guler@sabanciuniv.edu)>  
Sümeyye Karahamza <[sumeyye.karahamza@sabanciuniv.edu](mailto:sumeyye.karahamza@sabanciuniv.edu)>

### **Prerequisites**

See the website

### **Description**

Cognitive neuroscience is a branch of neuroscience that studies processes of the nervous system underpinning cognitive functions (acquisition, storage, transformation, and use of knowledge). The course explores the neural mechanisms underlying cognitive processes such as perception, attention, memory, and decision-making. In light of behavioral and neuroimaging research, the course aims to deliver the skills to interpret cognitive neuroscience research and understand human cognition.

### **Course website**

Please regularly check the course website because the syllabus is subject to change depending on your progress. The latest updates will be posted on the website.

### **Materials**

Textbook: Chapters will be provided online! Different weeks' chapters will be from different textbooks.

Slides: Lecture slides for each class will be made available on the course website before or soon after that lecture.

Slides themselves will not include sufficient amount of text to understand the lecture contents. Therefore, I highly recommend attending the classes.

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## Course schedule

Note that the schedule below is tentative; depending on the questions asked during classes and the subjective difficulty of the topics for students we may cover less or more topics than shown here. Please check the course website for the latest updates on the syllabus.

| Dates                 | Topic  | Readings   |
|-----------------------|--|--|
| Week 1                | Why and how do we study the brain?                               | Gazzinga et al. book Chapters 3  |
| Week 2                | How is the human nervous system organized, and how does it work? | Gazzinga et al. book Chapters 2  |
| Week 3                | How do we see?   | Gazzinga et al. book chapters 4 (parts uploaded for week 2) & 5 (full) |
| Week 4 & 5            | How do we pay attention?   | Gazzinga et al. Ch 7   |
| <b>Midterm exam 1</b> | <b>Until and including the topic attention</b>                   |  |
| Weeks 6, 7, 8         | How do we remember information?                                  | Passer & Smith Ch 8  |
| Week 9                | Why do we sleep?   | Passer & Smith Ch 6  |
| <b>Midterm exam 2</b> | <b>All chapters until now</b>                                    |  |
| Week 10               | From sounds to complex ideas: Language in the brain              | Banich & Compton Ch4   |
| Week 11               | How do we make decisions?  | TBA  |
| Week 12               | Why are some things rewarding?                                   | TBA  |
| Week 13               | How does the brain create emotions?                              | Passer & Smith Ch 11   |
| Week 14               | How do we interact with other people?                            | Passer & Smith Ch 17   |
| Week 14               | What are the effects of an abnormal brain?                       | Passer & Smith Ch 15&16  |
| Week 14               | Review <i>and/or</i> catching up                                 | -  |
| <b>TBA</b>            | <b>Final Exam</b>  | <b>Everything</b>  |

## Grading

| Assignment                    | Date   | % of final grade   |
|-------------------------------|--|--|
| Midterm exam #1               | November 10 <sup>th</sup>                                      | 25%  |
| Midterm exam #2               | December 15 <sup>th</sup>                                      | 25%  |
| Quizzes & class participation | One quiz after each chapter; participation during each class ☺ | 25% (there will be additional assignments for graduate-level students) |
| Final exam                    | January 12 <sup>th</sup>                                       | 25%  |
| Extra credit                  | Throughout the term  | Up to 5 points   |

| A   | A-       | B+       | B        | B-       | C+       | C        | C-       | D+       | D        | F   |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|
| >90 | 86-89.99 | 82-85.99 | 78-81.99 | 72-77.99 | 68-71.99 | 64-67.99 | 60-63.99 | 56-59.99 | 50-55.99 | <50 |

## Exams:

Exams will have multiple choice, fill-in, and short answer questions. While most questions test your general knowledge, some question will aim to test your understanding and critical thinking.

Thus, you should try to challenge the studies you read about, connect what you learned across different chapters, and form a big picture.

Make-up exams will be allowed only when a written justification (e.g., a doctor's report) is provided. Make-up exams must be taken within one week after the exam.

For online education; you must keep your camera on at all times. Otherwise, you might get zero from the exam. Also, students who fail to show up for the exams indicated in the Syllabus without a valid excuse and not taking the make-up examinations for such exams will receive N/A as their final grade. Remember that exams will be in-person!

### **Take-home quizzes:**

I will give quiz questions on SUCourse You can check the slides and listen to the lecture videos to answer these questions. You need to submit your answer before the next class (until 11:40 am each Monday). Please do them on your own to improve your learning maximally.

### **Extra credit:**

Through participating in psychology experiments (online), you can receive extra points on top of your final grade, with a maximum of 5 points. I recommend you to volunteer in experiment participation not only (i) to receive extra course credits, but also to (ii) contribute to the scientific advancement performed at Sabancı University, and (iii) experience how psychology and cognitive neuroscience experiments are performed.

For this course, you will be able to earn up to 5 bonus points (1 research point equals ~ 30 minutes of research participation). Ten research points (10PRs) will be converted to 5 bonus points added to your overall total at the end of the semester. 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 points through the online Sona system at <http://sabanciuniv.sona-systems.com>. Please, carefully read the Guide for Students: Sabancı University Experiment Credits System (Sona). Note that this option is subject to availability: There may be not enough experiments available to complete 3 bonus points.

### **Quizzes:**

There will be weekly quizzes to ensure consistent learning.

### **Attendance:**

I recommend attending classes and if possible participate during the classes. If you don't understand something, please ask. If you don't agree with something, please raise your concern. Participation will enhance the learning of the whole classroom, will make the classes more fun for you, and also will make teaching more fun for me (instructors are also human 😊). Also, together with quizzes, attendance will make up 25% of your grade.

### **Plagiarism (Extremely critical. Make sure you read this part):**

If you use someone else's thoughts or sentences without mentioning that these thoughts and sentences are theirs, then you are conducting plagiarism. Do not use someone else's idea as if it is yours. That means, no copy pasting, no stealing of ideas without acknowledging that they are someone else's. For more information in plagiarism, check out this [link](#). If you plagiarize you can get zero points for your quizzes or take-home exams. Please, never plagiarize!