

# Selected Topics in Memory & Attention

## PSY 415/515 Course Syllabus Spring 2021

### When / Where

Tuesdays 17:40-18:30 & Thursdays 16:40-18:30

### Instructor

Eren Günseli, Ph.D. <[eren.gunseli@sabanciuniv.edu](mailto:eren.gunseli@sabanciuniv.edu)>

Office hours: Please reach out via e-mail whenever you need to.

### TA

TBA

### Prerequisites

See the Information System website

### Description

This course explores the most recent advances in memory, attention, and their interactions. Topics include the role of memories for guiding attention, and the role of attention for encoding, manipulation, storage, retrieval of memories. The goal of the course is to provide an advanced, state-of-art understanding of memory and attention, and to deliver the skills for critically evaluating the relevant research.

### 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: There will be no textbook. Instead, there will be weekly assignment of scientific articles that will be uploaded on SUCourse+.

### 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	<b>Introduction to Attention</b> An introduction to concepts and debates in attention literature	Awh et al. (2011); The Psychology of Attention by Elizabeth Styles – Chapter 2
Weeks 2 & 3	<b>Memory</b> Seminal models of human memory	Atkinson & Shiffrin (1968); Ericsson & Kintsch (1995); Oberauer (2002);
Week 4 & 5	<b>Attention within Memory I</b> The role of attention for the encoding and retrieval of memories	Dudukovic et al (2009); Fernandes & Moscovitch (2000); Wais et al (2012); Weeks & Hasher (2017) <u>Optional Review: Aly &amp; Turk-Browne (2017)</u>
Week 6 & 7	<b>Attention within Memory II</b> The role of attention for the storage of working memory representations	Gunseli et al. (2019); Kiyonaga & D'Esposito (2020); Norris (2017) <u>Optional Review: Gazzaley &amp; Nobre (2012)</u>
Week 8	<b>Trends in Working Memory</b> Does working memory require sustained neural activity?	Beukers et al. (2020); Foster, Vogel, & Awh (2019); Millter et al. (2018) <u>Optional Review: Stokes (2015)</u>

Week 9	<b>Rhythms of Attention and Memory</b> The rhythmicity of attention for perception and within memory	Kerrén et al. (2018); ten Oever et al. (2020); van Rullen (2013) <u>Optional Review:</u> Fiebelkorn & Kastner (2019)
Week 10 & 11	<b>Attentional guidance by working memory</b> What aspects of working memories allow interacting with the world?	Bahle, Beck, & Hollingworth (2018); van Moorselaar, Theeuwes, & Olivers (2014); Williams, Brady, Störmer (2019). <u>Optional Reviews:</u> Olivers et al. (2011); Soto, Hodsoll, Rotshtein, Humphreys (2008).
Week 12 & 13	<b>Attentional guidance by long-term memory</b> Differences and similarities of attentional guidance by working memory and long-term memory	Anderson et al. (2011); Carlisle et al. (2011); Cunningham & Egeth (2016); Summerfield et al. (2006); Vö & Wolfe (2013). <u>Optional review:</u> Hutchinson & Turk-Browne (2012);

## Grading

Assignment	Date	% of final grade
Presentation	Each week, one of you will present a paper. See below for details.	50%
Participation	Discussion based on the readings on each week	50%
Extra credit*		Up to 3%

A	A-	B+	B-	C+	C-	D+	D-	F
>90	85-89.99	80-84.99	75-79.99	70-74.99	65-69.99	60-64.99	55-59.99	<55

### Class Presentations:

Each student is expected to present at least once, probably twice, depending on the size of the class. Presentations will be on one of the readings assigned for that week. The presentations should be given using a slide presentation to lead the class through the paper. Each presentation is expected to last about 40 minutes with an additional 20 minutes of discussions. To facilitate discussions, presenters are expected to come up with discussion questions. See the 'Presentation grading' section below for more details.

Some general tips for your presentation: Start by introducing the main research question. However, you are not expected to give any answers to the research question here. Instead, you are expected to make a brief introduction regarding the main purpose of the paper. You can also try to link this to a real-life example. Then, briefly providing proper background information and the findings of previous studies would be beneficial to introduce the audience to the topic. Remember, the course is structured to have a meaningful flow across weeks. Therefore, you will have plenty of options to relate your paper to other papers we have read. That said, you are also expected to scan the papers that your paper cites to refer to those in a meaningful way as well. Afterward, you can start presenting specific research questions and/or hypotheses of the paper, and you should explain the methods they used to test these hypotheses. When you are presenting the results, make sure that the meaning of the results is clearly explained. Please remember to include the relevant tables and figures from the paper in your presentation. You can continue by sharing how the authors discussed the findings; you may also share your

opinions and ask the audience to discuss as well. At the end of the presentation, you can draw an overall conclusion by reminding the research question, results and their implications. Remember to provide some discussion questions during the presentation to create a more interactive and encouraging environment. Do not list all questions at the end; rather, distribute them throughout the presentation at relevant moments.

#### Presentation Content:

If you are presenting an empirical paper, describe the question, the method, the results, the conclusions, and then bring up points for discussion. Don't get bogged down by details in the methods (unless they are critical to explain inconsistencies in the literature): convey the critical parts of the method that we need to understand the paper.

If it is a review paper, describe the big question it attempts to answer, the different theories it brings up, the evidence for each, the conclusions reached, and then bring up points for discussion. Often, papers are much too comprehensive to go over in detail in a short presentation; you therefore must decide what the main points are, and communicate those. If some sections in a paper are tangential to the main topic, feel free to skip them in your presentation. However, for papers that are essential for the message that the review paper aims to give, you will need to go into more details provided in the paper you are presenting. For this, you might need to go through these cited papers as well.

And remember: presentations are meant to be engaging, and you should try to involve your classmates as much as possible (e.g., by posing questions or asking for opinions regularly). The instructor will only interrupt to ask questions, answer the questions you can't answer, and to redirect the discussions to the right track if it is moving off-track. Otherwise, it is the responsibility of the presented to lead the class.

#### Pre-presentation meeting:

Each student is required to meet with me before their presentation so that they can receive feedback and have time to incorporate edits before their class presentation. Doing so can substantially improve your grade, and not doing so will result in an automatic 5 point deduction from your presentation. You need to schedule your meeting at least 1 week before your presentation!

#### Presentation grading:

Your class presentation is worth 50% of your grade, and is graded out of 60 points.

Note: If you present twice due to not having sufficient number of students, the average of the two presentations will be taken into account. If not everyone needs to present twice (again, due to the number of students), and you volunteer to present twice, you will get a bonus of 5 points for that extra presentation).

Describing the research question = 10 points,

Describing the experimental method = 10 points,

Describing the results = 10 points

Describing the conclusions reached = 10 points,

Bringing up points for discussion = 10 points.

Clarity of presentation (speaking and slides) = 10 points.

**Extra credit:**

Through participating in psychology experiments (online), you can receive extra points on top of your final grade, with a maximum of 3 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 3 bonus points (1 research point equals ~ 30 minutes of research participation). Six research points (6PRs) will be converted to 3 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.

**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, participation will make up 10% of your grade.

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

If you use someone else's thoughts, sentences, figures, slides, etc. without mentioning that these are not yours, 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 assignment. Please, never plagiarize!