

**Advanced Research in Psychology  
2020-2021 Fall Semester**

<b>Course Code:</b>	<b>PSY 403</b>
<b>Lecturer:</b>	<b>Asuman Buyukcan Tetik (asumanbt@sabanciuniv.edu)</b>
<b>Credits:</b>	3
<b>Offices hours:</b>	Please email me to make an appointment.

### 1. Brief Introduction

The goal of this course is to develop the knowledge and skills in psychological research, literature review, data analysis, and scientific writing. Topics of this course include, but are not limited to, hypothesis generation, structure of scientific articles, description of methods, and writing up scientific research papers.

### 2. Course Hours and Structure

**Main Question:** The course is scheduled for Tuesdays 8:40-10:30 am in the system, and another hour is coded as TBA (to-be-announced). What does this mean? What is the structure of the course?

- a) **This course will be composed of both synchronous and asynchronous parts. In asynchronous parts, the instructor will upload the power point file and its presentation to the Course Website.**
- b) **These course hours do NOT mean that we will meet regularly every week between 8:40 and 10:30. This time period is reserved for possible long meetings. Other than such cases, we will meet for an hour to have discussions. Long meetings may be necessary after Week 6.**

### 3. Required Text

We will not use a specific textbook for this course. Instead, you will be assigned some chapters from different books (please see the list below) and some articles.

### 4. Assessment

<b>Type of assessment</b>	<b>% of total grade</b>
4 Papers (= Group Work Take-home Exam)	60% (15% each)
Online exercises	10%
Take-home final exam	30%
<b>Total</b>	<b>100%</b>

#### 4.1. 4 papers (60% of total grade - 15% for each paper) (Group Work Take-home Exams)

You are expected to write 4 papers throughout the semester. This will be a group work. Each group will be composed of 3 individuals (this number may change according to the number of registered students).

In the beginning of the semester, you will be given a dataset. Using that dataset, you are going to write introduction, method, results, and discussion sections (please see the timetable below for details) with your group members. You are *not* going to collect data because of the limited time, but you are expected to conduct the analyses with your group members. More information about the dataset, research questions, and expectations will be provided during the semester.

#### 4.2. Online exercises (10% of total grade)

There will be at least 5 online exercises with a few questions on random Tuesdays at 10:00am. The exercise will be open for 5-15 minutes based on the number of questions. Considering that there may be some problems such as internet connection problems that can create an obstacle for your availability at these time intervals, you will be expected to attend at least 3 of the online exercises until the end of the semester.

If the number of online exercises you took is less than 3 at the end of the semester, you will get zero as many as the number of missed exercises (e.g., if you attended only 1 online exercise, you will get two zeros). It is up to you to take more than 3 online class exercises, but you do not have to. In case you take more than 3 online exercises, the 3 online exercises with the highest grade will be counted in your final grade calculation.

#### 4.3. Take-home final exam (30% of total grade)

This exam will include a mix of fill-in, free-response, multiple-choice, and short-answer questions. Questions in the exam will be based on everything (i.e., slides, handouts, discussions etc.) covered in lectures and also on all the reading materials (i.e., assigned chapters, assigned articles). The final exam will be cumulative (i.e., all class materials from the beginning of the semester will be covered).

#### 4.4. Research points (Extra credits)

Students can optionally serve as participants in research that is run by Sabanci University researchers. By participating in research, you can get research points. For this course, you will be able to earn up to 6 research points (1 credit equals ~ 29 minutes of research participation). These 6 RP points will be converted to 3 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 points through the online Sona system at <http://sabanciuniv.sona-systems.com>

Please, carefully read the Guide for Students: Sabanci University Experiment Credits System (Sona), which will be uploaded to the Course Website.

### 5. Grading

>=90	A
85-89	A-
80-84	B+
75-79	B
70-74	B-
65-69	C+
60-64	C
55-59	C-
50-54	D+
45-49	D
0-44	F

## 6. Timetable

### Week 1

- Syllabus
- The Steps of the Research Process - *Bordens & Abbott, 2002, pp. 20-23*

### Week 2

- Developing Good Research Questions - *Bordens & Abbott, 2002, pp.28-33*
- Characteristics of a good theory - *Bordens & Abbott, 2002, pp.44-46*
- Gray, K., & Wegner, D. M. (2013). Six guidelines for interesting research. *Perspectives on Psychological Science*, 8, 549-553.
- Alon, U. (2009). How to choose a good scientific problem. *Molecular Cell*, 35, 726-728.
- Schwartz, M. A. (2008). The importance of stupidity in scientific research. *Journal of Cell Science*, 121(11), 1771-1771.

### Week 3

- Sections of an article
- Reading the Research Report - *Bordens & Abbott, 2002, pp. 78-81*
- Writing Research Reports: *Morling, 2012, pp. 487-498*
- Literature Review
- Introduction Section

### Week 4

- Sections of an article
- **Sharing the survey with the class**
- *Sample articles will be assigned*

### Week 5

- Sections of an article
- *Sample articles will be assigned*
- **Selection of Group Research Questions – Meetings with Each Group**

### Week 6

- Sections of an article
- Overview of main analysis methods
- Meanings of Moderation and Mediation
- Applying Statistical Methods in Your Own Research Project, *Aron, Coups, Aron, 2011, Chapter 12, pp. 422-434*
- Statistics Review: *Morling, 2012, pp. 474-486*
  - Common Inferential Statistics (t-test, ANOVA, correlation, regression)

### Week 7

- Sections of an article
- Introduction to MPLUS
- *Sample articles will be assigned*

### Week 8

- Introduction to MPLUS
- **Introduction Paper Due Date (Group Work)**
- **Sharing the data with the class**

### Week 9-13

- Sections of an article
- Introduction to MPLUS
- Back to Common Inferential Statistics (t-test, ANOVA, correlation, regression, chi square)
- Back to Mediation & Moderation: Chapter 7, *Cohen, Cohen, West, & Aiken, 2003*
- **Week10: Method Paper Due Date (Group Work)**
- **Week13: Results Section Due Date (Group Work)**

### Week 14

- Current Issues in Psychology: Open Science, Reproducible Science, Fraud etc.

- Sample articles will be assigned
- Wrap Up
- Discussion Section Due Date (Group Work)

#### References:

- Alon, U. (2009). How to choose a good scientific problem. *Molecular Cell*, 35, 726-728.
- Aron, A., Coups, E., & Aron, E. N. (2011). *Statistics for The Behavioral and Social Sciences: Pearson New International Edition: A Brief Course*. Pearson Higher Ed.: New Jersey
- Bordens, K. S., & Abbott, B. B. (2002). *Research design and methods: A process approach*. McGraw-Hill: New York.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. New York: Routledge.
- Gray, K., & Wegner, D. M. (2013). Six guidelines for interesting research. *Perspectives on Psychological Science*, 8, 549-553.
- Morling, B. (2012). *Research methods in psychology: Evaluating a world of information*. New York: Norton.
- Schwartz, M. A. (2008). The importance of stupidity in scientific research. *Journal of Cell Science*, 121(11), 1771-1771.

#### **7. Other announcements**

- I may slightly change this syllabus throughout the semester. I will let you know in case I make any changes.
- You are expected to read the power point slides before each online mini exam.
- Please do not forget that as a university policy, all students have to behave according to the academic principles mentioned here: <https://www.sabanciuniv.edu/en/academic-integrity-statement>. Please read all those principles.
- Plagiarism from either external resources or your classmates' work, or any type of fraud (e.g., cheating, copying) will not be tolerated. Students who engaged in these types of behaviors will fail in this course and be a subject of a discipline inquiry.
- Any type of work that will be graded (presentations, videos, papers, online mini exam etc.) have an exam status and any kind of "intihal" (plagiarism) in homeworks will be categorized as cheating.
- Make-up exams can be allowed only in case of an emergency (e.g., medical emergency). The student should email me as soon as possible in this type of situations.