

# PSYC 52a: Research Methods and Laboratory in Psychology

Summer 2018

Department of Psychology, Brandeis University

## Instructor:

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Office Hours: the hour following each class

**Class Meetings:** tba

**Course Website:** <http://latte.brandeis.edu/>

## Textbook:

- Stangor, C. (2014). *Research Methods for the Behavioral Sciences* (5<sup>rd</sup> edition). Boston, MA: Houghton Mifflin. **ISBN-13: 978-1285077024**
- *Optional:* American Psychological Association. (2001). *Publication Manual of the American Psychological Association*. (5th Ed.) Washington, D.C.: APA.

## Course Description:

Psychology is the science of studying human behavior. *Research Methods* is a course designed to give you experience with designing, conducting, analyzing, interpreting, and communicating scientific psychological research. You will learn this through short presentations summarizing the necessary background, in-class exercises, and most importantly, through actual hands-on training on the fundamentals of conducting psychological research. The primary focus is “learning by doing.”

As this class emphasizes active participation, making up in-class assignments is not possible, so regular class attendance and participation are very important. Grading will be based on four written reports, four tests, and participation. Psychology 51a is required as a prerequisite.

## Course Objectives:

Participating in *Research Methods* will enable you to

- think critically about research
- thoughtfully design experiments
- analyze experimental results using statistical methods (and SPSS)
- critically interpret experimental results
- communicate your findings to others by technical reports written clearly, concisely, and objectively using APA format

## Grading:

The final grade will be a weighted average of the course requirements (see below for more details):

- |   |     |                 |
|---|-----|-----------------|
| ▪ participation, in-class exercises, poster | 25% | (1/6, 1/2, 1/3) |
| ▪ 3 tests                                   | 25% |                 |
| ▪ 3 written assignments                     | 25% |                 |
| ▪ final project report                      | 25% |                 |

## Requirements:

- Participation. This course is about active learning, which means it heavily relies on discussions, in-class exercises, and actually doing research, including collecting data. Therefore, regular attendance is required to pass this course and quality of participation is a large component of your grade. Active participation also means that you share your thoughts, questions, and doubts. To allow you to do so, you should come prepared, meaning you have read the relevant book chapter(s).
- In-Class Exercises. In almost each session, we will work on an in-class exercise that is designed to help you to get a more in-depth understanding of that day's topic. Those exercises will be collected for pass/fail grading and are worth half of the 'participation and in-class exercises points' described under 'Grading' (see above). There is no way to make-up these exercises if you miss class. Because of limited class time, we may not cover all answer keys of the lab activities in class, however, you are responsible for checking the answers from LATTE after class.
- Tests. There will be 3 tests consisting of varying combinations of the following: multiple choice questions, open-ended questions, and applying what you have learned. To help you studying for the test, I will provide you with a practice test before the test. Each test will emphasize topics covered in the respective section (see schedule below) but may also draw on what you studied for an earlier test. All tests must be taken when scheduled (or in advance by arrangement in extenuating circumstances).

- Research Papers. Before putting everything you learned together in a final project, writing three reports on research projects will give you all the tools you need for successfully completing the final project. For the three research projects, you may work collaboratively, however, each student must individually write and turn in each assigned paper. The three assignments will cover the following sections of a research report:

Ass. #1: Methods and Results

Ass. #2: Title Page, Introduction, References, Tables, Figures

Ass. #3: Title Page, Abstract, Methods, Results, Discussion, References, Tables, Figures

The papers must thereby conform to the standards of the American Psychological Association (APA). You will hand in a draft of the paper before the actual paper is due (see deadline for drafts) and it will be randomly assigned to one of your fellow students for peer review. No student will thereby know at any point whose paper he/she is commenting on. This process will give you the opportunity to revise your paper before handing in the final version and hence increases your chances for a better grade. Furthermore, you will receive a rubric for each of the assignments. These will give you an idea on which aspects are emphasize in each of the assignments and how each of the papers will be graded. You will also use the rubric as a guide when commenting on your fellow student's paper. Generally, papers are due by the beginning of the class period on the scheduled date and must be uploaded through the respective assignment on LATTE. *Late papers will be penalized 5% points for each day past the deadline.*

- Final Project. In the final weeks of the course, you will be able to put everything you have learned in this course to a test by designing, conducting, and analyzing your own study on a topic you are interested in. Depending on the class size, your final project may be a group project. The data can be collected in class and/or from volunteers outside of class. At the end of the semester, you will then have the opportunity to present your findings in a poster session (see below). Furthermore, you will write a complete report, including all sections mentioned above.

- Poster presentation. As mentioned, you will have the opportunity to present your final project results in a poster session at the end of the semester. For group-projects, each of the group members will present one part of the study and get points toward the participation grade individually (worth 1/3 of participation points).
- Computer Use. We will make extensive use of the workstations located in the classroom. Other computing sites may not have the same versions of software, so please make use of the time provided during class sessions to complete your assignments. Please always make a back-up copy of your work in progress! As SPSS is available for free for Brandeis students, you may use your own computer for all course work instead of the workstation. However, the same considerations regarding regular back-up of your work apply.
- Data Collection. For the first three assignments, you will collect data in class and/or from volunteers outside of class. You will receive all necessary materials and detailed instructions to facilitate data collection. Studies 1-3 are thereby designed to illustrate different research designs and respective methodological considerations, and to aid in practicing the indicated statistical analyses in SPSS.  
Please note that your final project must be approved by the instructor, i.e., you must receive prior written approval from me before you can begin any data collection on your research project. This is to ensure that human subjects ethical guidelines are followed, and that the research is conducted in line with the expectations of Brandeis University's Institutional Review Board. Failure to abide by these guidelines could result in a failing grade on the assignment.
- Academic integrity. You are expected to be honest in all of your academic work (see <http://www.brandeis.edu/studentaffairs/srcs/ai/index.html>). Academic dishonesty in any form, e.g., cheating or plagiarism, will not be tolerated and instances of alleged dishonesty will be forwarded to the Office of Campus Life for possible referral to the Student Judicial System as required by University policy (see section 5 of the Rights and Responsibilities handbook for the university policies in this area). Potential sanctions include failure in the course and suspension from the University. If you have any questions about my expectations, please ask.  
Plagiarism means presenting the opinion or the work of others as your own work. This can occur in a number of ways, some more obvious than others. For example, if you simply take someone else's researched and written report and present it as your own, that is a clear-cut case of plagiarism. Also, if you use the exact language of someone else without placing the words in quotation marks and naming the original author, you are clearly committing plagiarism. You are also committing plagiarism, however, if you take someone else's arrangement of material or pattern of thought and present it as your own without referencing it, even if you express it in your own words. In summary, do not submit work that presents the ideas of others as your own ideas, fails to properly cite sources, and/or lifts sentences or ideas from the works of others. If you are uncertain as to whether something you are doing would count as cheating, ask me before you turn it in.
- Accommodations for students with disabilities. If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

#### **Student resources:**

- Textbook comparison site for students: <http://www.addall.com>
- For SPSS support at Brandeis, refer to: <http://its.brandeis.edu/techhelp/content/software.html>
- For SPSS tutorials see: [www.youtube.com/user/ProfAndyField](http://www.youtube.com/user/ProfAndyField)
- Good site for revising math basics: <http://www.bbc.co.uk/schools/gcsebitesize/math/>

**Comments:**

This is a demanding course that requires significant effort. It includes extending the statistical skills you learned in Statistics. The material on inferential statistics is quite demanding and you will probably have to go over it several times in several different ways before you fully understand it. There is also a great deal of work involved, particularly in completing the readings, research project, paper, and presentation. However, students who do complete all of this work are likely to master the necessary skills and make good grades. You may also find that conducting and reporting research is interesting and rewarding.

This course is based on active participation. Thus, your comments and suggestions are welcome at any time. Also, if you experience any difficulties, do not hesitate to contact me early on. You can find my phone number along with my e-mail address on the first page of this document. If you are unable to attend a session, you do not need to explain your absence, however, please remember that active participation is the key to successfully mastering this course!

**Class Schedule:**

Please note that class schedule on page 4 is tentative. Dictated by the needs and interests of the class, it may be necessary to make changes to the timing of the content as the course progresses. However, this will not affect the due dates of the tests, the poster presentation, and the final paper. Furthermore, although the schedule lists book chapters, we may not cover the content of the whole chapter in one specific session.

**Class Schedule**

DATES	TOPICS	READINGS	DUE DATES
<b>Section I: Introduction to Research</b>			
1	Introduction to Research Intro Study #1	Ch. 1	run study1
2	Develop a Research Hypothesis <i>Literature Search</i>	Ch. 2	Lit rev Assn. #1
3	Ethics <i>SPSS: Data Entry</i>	Ch. 3 App. B	
<b>Section II: Methods – Non-Experimental Research Designs</b>			
4	<i>Scientific Writing</i> <i>Analyze Study1</i>	App. A	run study2 Draft Assn. #1
5	Intro Study #2, Measures Reliability and Validity	Ch. 4 Ch. 5	Assn. #1
6	Correlations	Ch. 9, App. C	<b>TEST 1</b>
<b>Section III: One Variable, Two-Level and Multiple Group Designs</b>			
7	Descriptive Statistics; One-Way Designs	Ch. 6 Ch. 10, App. C	data entry study2 Lit rev Assn. #2
8	<i>Writing II</i> <i>Analyze Study2</i>	App. A	Draft Assn. #2
<b>Section IV: Methods – Two Variable / Factorial Designs</b>			
9	Intro Study #3; Experimental Control	Ch. 12	<b>TEST 2</b> Assn. #2
10	Factorial Designs, Interactions	Ch. 11	run study3
12	<i>Analyze Study3; Writing III</i>	App. B	data entry study3 Draft Assn. #3
<b>Section V: Methods – Putting it together / Run your own study</b>			
12	External Validity <i>Design Study 4</i>	Ch. 13	<b>TEST 3</b> Assn. #3
13	<i>Data Collection</i>		Draft Design Assn. #4 run study4
14	<i>Data Analysis + Interpretation</i>		data entry study 4 Draft Assn. #4
15	Poster Presentation		
Aug 10	Submit Final Paper		Assn. #4