

Psychology 101 – Research and Data Analysis in Psychology

UC Berkeley

Instructor: TBD
Office Hours: TBD
Class Time: TBD

Email: TBA
Office Location: TBD
Class Location: TBD

Recommended Textbook:

Nolan, S. A. & Heinzen, T. E. (2017). Statistics for the behavioral sciences (4th ed.). New York, NY: Worth Publishers. ISBN: 978-1-319-01422-3

Additional Course Requirements:

Students are expected to bring a calculator—scientific calculators are suggested, but not required—to each class and section.

In sections, students will learn information off of the program R. Having this free program downloaded onto your computer will be helpful in order to do well in the class.

Website:

Lectures, assignments, and grades can all be accessed on the school website, bcourses.berkeley.edu.

Course Description

Psychology 101 is a class that is designed to expose you, the student, to a variety of methods and analytical techniques that are critical in conducting and analyzing research. This course will cover the basic terminology of statistics, the methodology used in experiments, the calculations involved in analyses of experiments, and the application of the results that are obtained. This is an extremely challenging course that requires you to keep up with the readings, activities, and assignments throughout the semester. Please be prepared for a course that will get significantly more in depth and difficult as the semester progresses.

Course Requirements

Exams: There will be a total of 4 exams in this course, each worth 100 points. Each exam will cover material located in both the text and in the lectures. The exams will **not** be designed to be accumulative in nature, but you will often be required to display an understanding of information in previous sections in order to do well in each of the exams. Because of the homework assignment replacement option (see below), no late exams or make-up exams will be offered. If there is an emergency/event that comes up, your homework score will replace the missed exam.

Homework Assignments: There will be a total of 9 weekly assignments in this course to keep you up to date. Each assignment is worth 12 points, with your lowest assignment score not being factored into your homework grade. All of the assignments—minus the lowest score that is dropped—will add up to 100 points (we'll just add 4 points out of 4 to your total to get this to exactly 100 points). Assignments are due in section, with due dates for these assignments being provided on the bottom of this syllabus. The specifics for each assignment will be announced in section and posted online. In this class, you have the option of turning in homework or avoiding it all together. If you choose to do the homework, your assignments point total can be used to replace your lowest exam score. If the homework adds up to less than the total points that you earned on your lowest exam, your score will merely be omitted from your final grade calculation. Because of this option, along with the dropping of your lowest homework score, late work for homework will not be accepted under any circumstances. If you will miss a class (due to illness, a game, a family emergency, a car accident, or anything else) find a way to get the homework in early or in through some other channel.

Course Project: Instead of taking a final exam in this class, you will be completing a final project. It is designed in order to allow you to display an understanding of the methodology, implementation, and analysis of data involved in experiments. This project is worth 100 points. More on these projects will be discussed at the end of the semester.

Grading Policy

Final grades will be calculated on the basis of 500 points distributed as follows:

<u>Requirement</u>	<u>Points</u>	<u>% of grade</u>
Exam 1	100	20% of your grade
Exam 2	100	20% of your grade
Exam 3	100	20% of your grade
Exam 4	100	20% of your grade
Assignments	(100)	(20% of your grade)
Final Project	100	20% of your grade

Final grades will be based on a standard 100% scale: A=90%-100%, B=80%-90%, C=70%-80%, D=60%-70%, with + and - for the upper and lower 3% extremes of those ranges (e.g. B+ = 87-89.9%).

Student Responsibilities

You will not be required to put in long nights of studying, or have the intellectual capacity of Einstein in order to be successful in this course. However, effort, vigilance, and a positive mindset will be essential for both success and an appreciation of the material that will be presented to you this semester. Listed below are some additional necessary and helpful tips about how to be successful and get the most out of this course.

- 1) Attend class. The lectures and sections will almost always contain pieces of information about topics that are not located in the text. Therefore, it is imperative that you come to them and pay attention while you are there. We also will be working on computations and big picture ideas in class, so attendance will give you an extra opportunity to tie concepts together and have some hands-on opportunities to work on the topics that we're covering.
- 2) Arrive on time. If you're late, it will be more difficult to comprehend the flow of information, you may miss an activity, and it's just in bad taste to be late. You might also miss some extra credit opportunities that might come up. Bottom line, get to class!
- 3) BRING A RELIABLE CALCULATOR! This *is* statistics. You'll need it for the classes and the exams.
- 4) Read the chapter that pertains to each lecture in advance and do all of the assignments. You will learn more and be more prepared to respond to or ask questions if you do this. You will also benefit more from the in-class activities. Please, for your sake, do not fall behind in the reading.
- 5) Be aware of exam dates and assignment due dates. Write them into your date book or calendar today.

Academic Honesty

Both the University and your instructor take academic honesty very seriously. If you are caught cheating on an exam or assignment, you will automatically fail the class. This behavior will also be brought to the attention of the psychology department and University. Afterward, further actions might then be taken by both groups.

Disability Statement

If you are a student who needs academic accommodations or support because of a documented disability, you should contact me and provide copies of your contract or accommodation letters within two weeks of the start of the semester. This will allow me to make the appropriate arrangements. All discussions will remain confidential. If you have questions about accessing Disability Support Services, documenting a disability, or requesting accommodations, you should contact the disability support program. More information can be found online.

Student Learning Outcome and Course Requirements Met

This course is required for the psychology major. It might also fulfill the requirements for other majors. The class is required for majors because by the end of this semester you should have gained: 1. The knowledge, understanding, and critical thinking skills that are required in order to evaluate and understand empirical work, and 2. The ability to effectively communicate your logic and calculate out the statistics that you can and will use in experiments during this semester and in future years.

Course Schedule

<u>Date</u>	<u>Topic</u>	<u>Reading</u>	<u>Weekly Section Topic/HW Due</u>
TBD	Introduction/Syllabus		No Sections for Week
TBD	Defining Variables and Study Design (Pt 1)		
TBD	Defining Variables and Study Design (Pt 2)	Chapter 2	Introductions & Walkthrough of HW
TBD	Measures of Central Tendency and Variability	Chapter 4	
TBD	Scientific Sampling and Inferential Statistics	Chapter 5	Experimental Designs (HW 1)
TBD	Exam 1 Review		
TBD	Exam 1	(Chapters 1-5)	No Sections for Week
TBD	Distributions and the Normal Curve	Chapter 6	
TBD	z-scores and the Normal Curve	Chapter 7	Outliers (HW 2)
TBD	Z-tests	Chapter 9	
TBD	One-Sample t-Test		Central Limit Theorem (HW 3)
TBD	Confidence Intervals and Review	Chapter 8	
TBD	Exam 2	(Chapters 6-9)	No Sections for Week (Except Monday Section)
TBD	Independent t-tests	Chapter 11	
TBD	Dependent t-tests	Chapter 10	Comparing Z and t (HW 4)
TBD	One-Way ANOVAs	Chapter 12	
TBD	Post-Hoc Tests		When to Use the t-Test (HW 5)
TBD	Two-Way ANOVAs	Chapter 14	
<i>TBD No Class (Spring Break)</i>			
TBD	A Closer Look at Interactions Post-Hoc Tests		Understanding F (HW 6)
TBD	Papers/Review		
TBD	Exam 3	(Chapters 10, 12, 14)	No Sections for Week
TBD	Correlation	Chapter 15	
TBD	Regression	Chapter 16	Project Planning (HW 7)
TBD	Chi Square	Chapter 17	
TBD	Effect Size		Graphing C & R (HW 8)
TBD	Power		
TBD	Class Carryover and Closing Day		APA & Experiments (HW 9)
TBD	Exam 4	(Chapters 15-17)	
<i>TBD</i>	<i>READING WEEK</i>	<i>READING WEEK</i>	<i>READING WEEK</i>
TBD	No Final Exam, but The Final Paper is Due at 11:30 AM Sharp		

Disclaimer: This syllabus is subject to modification. The instructor will communicate with students on any changes.