

UCLA - Spring 2019

## Psych 100A: Psychological Statistics Lec 1

M, W: 2:00 – 3:15, Broad 2160E;

F: 2:00 – 2:50, Broad 2160E

<u>Instructor</u>	<u>Teaching Assistants</u>	
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### Course Overview and Goals

This course provides an introduction to statistics and data analysis. We start with how we take variation in the world and turn it into data. We then develop tools and concepts for *exploring* variation in data, *modeling* variation, and, finally, *evaluating* our models.

At the end of this course, students should:

1. Understand basic concepts that underlie descriptive and inferential statistics, and be able to use these concepts to make sense of new situations.
2. Be prepared to learn more advanced techniques in the future.
3. Be able to do basic data analyses using R.

### Approach to the Course

Our focus throughout the course will be on **understanding**, not memorization. Thus, for example, students will not be required to memorize formulas, but they should be able to understand and explain what the most basic statistical formulas are doing. Please adopt a stance of curiosity: try to make sense of the course, and ask questions if you need help making sense.

Much of the content of the course will be conveyed in the interactive **online textbook**. It includes exercises and assessment questions. You should try to read the book thoroughly, do all of the exercises, and answer all of the questions. Most importantly, **take the time necessary to make sense** of the textbook.

As an author of the materials, I can assure you that all of the text and interactive activities were written with your learning in mind. At no point did we pad the materials with content that goes beyond what's critical to your understanding, and you should complete your work with that in mind. If it's included, it's worth your effort.

**Lectures** will focus on working with new examples, deepening understanding of concepts and connections among them, and addressing topics students are finding difficult.

The **Friday Lab** has two purposes. In even-numbered weeks it will be used for quizzes (see Schedule, p. 4). In odd-numbered weeks it will serve as an optional discussion section, during which the TAs will

be available to answer questions.

**Attendance in class is recommended but not required.** All required content is covered in the online textbook, and a thorough working-through of the textbook may be sufficient for some students. However, our experience shows that most students will learn more and earn higher grades if they participate actively in class.

If you do attend lecture, we request that you not use your laptop or mobile device for any activity unrelated to the course. Doing so reduces the quality of in-class discussions for everyone, and is distracting to other students.

## Materials and How to Access Them

We have worked hard to make all materials for this course free, and they are! Here's how to access the materials.

### 1. Online interactive text (homework)

The **core work** for this course will be done online, for homework. Lectures are designed to supplement the homework, not substitute for it. We are using a new set of materials authored by your instructor and his colleagues.

**Signing up.** The materials are housed on the Canvas learning management system. To register for the online materials use this link: <https://canvas.instructure.com/enroll/EPAMCE>

**We suggest you use the same email address that you gave to the registrar when you register on Canvas. This is the email we will use to send you links to the quizzes and final exam.** (NOTE: You can find what that email address is by logging into CCLE and checking in the gradebook.)

Please remember what email address you used to sign up for Canvas, and use that address every time you login. If Canvas asks you to set up a new account, it probably means you are using the wrong email address. Please don't sign up for multiple accounts - it makes life very confusing.

**Technical support.** If you have technical issues with the online textbook, please send an email to [coursekata@gmail.com](mailto:coursekata@gmail.com) and we will try to get right back to you. Describe your problem as fully as possible, and include screen grabs to show us what you are seeing.

Course materials are best accessed on a laptop or desktop computer. **We recommend you use Chrome as your browser.** Individuals who need a laptop can make use of the library's lending program: <http://www.library.ucla.edu/clicc/lending>.

### 2. Polleverywhere.com

We will use polleverywhere.com during lectures. You will receive an email from Poll Everywhere <support@polleverywhere.com> with instructions on how to register. **Please do not register until you receive the email invitation.** It will be sent to the email you use to sign up for Canvas.

### 3. BruinCast of Lectures

All lectures will be recorded by BruinCast. They can be accessed through the class website on CCLE.

### In Lecture

Lectures are not intended to provide new information, but to give you a chance to think deeply about - and ask questions about - what you are learning in the online book. **We strongly suggest you bring a laptop to class so that you can participate more fully in data analysis examples.** Make sure that your device is charged prior to class, as power outlets will not be available.

**In-class dashboard.** Find our in-class dashboard at [bit.ly/100Aclass](https://bit.ly/100Aclass). Everything you need to do in class you can do from this page... answer Poll Everywhere questions, ask questions using Ask For Me!, and run R code in a DataCamp sandbox.

**Ask For Me!** One of the best ways to increase your understanding is to ask questions - even, and especially, the ones you think might be stupid questions. You'd be surprised at how many other students have your same question, but are afraid to ask! Your questions not only help you learn, but also help others.

If you have a question during lecture, you can, of course, raise your hand. But you also can enter your question at [bit.ly/100Aaskforme](https://bit.ly/100Aaskforme) (or through the in-class dashboard). Questions entered here are anonymous. They are routed instantly to a TA, who will organize questions and ask them for you in class, for everyone to hear. This has proved a popular tool in previous classes; give it a try!

## Graded Assignments

Graded assignments consist of the online homework, five quizzes, and a final exam.

### Homework

All homework is to be completed online using your account at <https://canvas.instructure.com/>. (See instructions above on how to get access.) Read each page carefully, do all of the embedded R exercises, answer all of the embedded questions, and answer the practice quiz questions at the end of each chapter.

Homework is due each week according to the schedule below. **You should expect the homework to take 6-8 hours per week, so start early in the week.** Homework will be graded for completion, not correctness. We're trying to help you learn, not trip you up. Nevertheless, you will not get credit for gibberish responses.

Homework questions are designed to help you learn, and as a way to check your own understanding as you go. The purpose of homework is not to demonstrate your understanding to the instructor—that's what quizzes and the final exam are for.

As you work through the homework, be sure to write down questions and things you don't understand. **Bring these questions to lecture, lab, or office hours, or post them on the discussion forum in Canvas.** Everything covered in the online textbook is fair game for exams; it is your responsibility to make sure you have understood the content.

## Quizzes

We will have a five quizzes throughout the quarter. Quizzes will be given during regularly scheduled Friday Labs (see schedule below), and may include both multiple choice and short answer questions. **Quizzes will be given online, and should be taken on a laptop. Be sure to bring a laptop to class on quiz days. Though quizzes are administered online, you *must* be present in class to participate.**

Quizzes are cumulative, which means they can cover all homework assignments starting from the beginning of the course up through those that are due on the Sunday prior to the Friday quiz.

## Schedule of Homework and Quizzes

Below is the schedule of assignments and due dates, as well as the dates and content of the five quizzes.

Homework Due Every Sunday, 11:30 pm			Quizzes and Fridays	
Week	Due Date (Sunday)	Chapters	Friday Lab	Quiz Content
1	Apr 7	0: Pre-Course Survey 1, 2, 3 & 4: Exploring Variation	4/5 Intro to TAs	
2	Apr 14	5: A Simple Model	4/12 Quiz #1	Chapters 1-4
3	Apr 21	6: Quantifying Error	4/19 Q&A	
4	Apr 28	7: Adding an Explanatory Variable to the Model	4/26 Quiz #2	Up through Chapter 6
5	May 5	8: Regression Models	5/3 Q&A	
6	May 12	9: Sampling Distributions	5/10 Quiz #3	Up through Chapter 8
7	May 19	10: Confidence Intervals	5/17 Q&A	
8	May 26	11: Comparing Models with F	5/24 Quiz #4	Up through Chapter 9
9	June 2	12: What You've Learned	5/31 Q&A	
10		No homework: Just study!	6/7 Quiz #5	Up through Chapter 11

## What to Bring to Quizzes and the Final Exam

Quizzes and the final exam will be administered online and in class. You must bring a wi-fi connected device - preferably a laptop computer. Make sure your device is fully charged prior to the exam. **You will be provided with a printed copy of the R cheat sheet to consult during quizzes and the final exam. No other notes or materials may be consulted.**

## Grading Policy

Final grades will be based on a weighted average of homework assignments, the five quizzes, and a final exam.

### Earning Points

**Online homework.** You will receive full credit for completing each of the 9 homework assignments before the deadline. If you do not complete all of the exercises and answer all of the questions before the deadline you will get 0 credit for that assignment. There is no partial credit for homework. Your total homework score will be percent of the 9 assignments completed (from 0 to 100).

**Quizzes.** There will be five quizzes, each administered during one of the regularly scheduled Friday Labs. Each quiz is scored from 0 to 100 (percent correct) and we will drop your lowest quiz score when figuring your final grade. Missed quizzes cannot be made up. An absence will count as your lowest quiz score.

**Final exam.** The final exam is cumulative, and will be held during the regularly scheduled final exam period: **June 11, 8-11 am**. It will include both multiple-choice and short answer questions. The final exam is scored from 0 to 100 (percent correct).

### Calculating Your Course Grade

There are two methods for calculating your final course grade. Each method applies different weights to the different components, with Method 2 weighting the final exam more heavily. We will calculate your final grade using both methods, and assign you the higher of the two grades. **NOTE: You must take the final to pass this course.**

	Weights	
	Method 1	Method 2
Homework	20%	20%
Quizzes	40%	10%
Final exam	40%	70%
TOTAL	100%	100%

The course grade will be based on the following percentages of total points, using the weights in the table above:

A+: 97.50 - 100%	B: 80.00 - 87.49%	D+: 67.50 - 69.99%
A: 90.00 - 97.49%	C+: 77.50 - 79.99%	D: 60.00 - 67.49%
B+: 87.50 - 89.99%	C: 70.00 - 77.49%	F: Less than 60%

The course will not be graded on a curve, as it is my philosophy that each student's grade should be based solely on his or her own performance, not on the performance of others in the class. We encourage you to study with friends, if you want—if you all learn more, you will all get higher grades.