
STAT 20 FALL 2017

Introduction to Probability and Statistics

Instructor: Shobhana Murali Stoyanov

ABOUT THE COURSE

Stat 20 is an introductory course and does not assume prior knowledge of any probability or statistics. We will discuss examples from various fields, and some mathematical background such as calculus is assumed - this is mostly to make sure that you have a level of mathematical maturity. We don't really use calculus. In the first part of the course we will discuss numerical and graphical exploration of data. After that we will study the theoretical concepts that we will need in the last part of the course for statistical inference. It is difficult to succeed in today's world without a solid understanding of basic statistics. This course aims to provide you with the statistical tools you will need in the fields of business and economics, or just to be an informed citizen and consumer.

We will be using the statistical software R in the course. We will also be using iclickers during class - the clicker questions will be designed to test your conceptual understanding. Please make sure to bring your clicker remotes every day, and your laptops when indicated.

TIME AND LOCATION:

The lectures will be MWF from 9-10am in 155 Dwinelle.

TEXT:

Statistics, 4th edition, by Freedman, Pisani, and Purves.

INSTRUCTOR:

Shobhana Murali Stoyanov (shobhana@berkeley.edu)

GSI:

Mingjia Chen (mingjia_chen@berkeley.edu)

Ruonan Hao (ruonan_hao@berkeley.edu)

Shuhui Huang (hij1356@berkeley.edu)

Aditya Pandey (pandey_aditya@berkeley.edu)

Vishan Pattnaik (vishan_pattnaik@berkeley.edu)

Jordan Prosky (jorpro@berkeley.edu)

Harman Shah Singh (harman_shahsingh@berkeley.edu)

Chi Zhang (chi.zhang@berkeley.edu)

OFFICE HOURS:

Shobhana: Tuesdays and Wednesdays from 11:30-1 in Evans 325

GSI: TBA - Note that you can go to *any* GSI's office hours, not just your own

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CLICKERS:

Please bring your clickers to class, we will have some clicker questions each lecture beginning August 28. Sometimes they will cover concepts studied in previous weeks, and sometimes the current topic. You will be graded on participation, not correctness.

LAPTOPS & R:

We will be working with the software R to enhance your comprehension of the concepts that you will be studying. You will need to download both R and the environment for R called RStudio. Links will be provided on bcourses under Pages. The GSIs will have section during the first Thursday (8/24) to help you troubleshoot the downloads. Please have it downloaded and ready to go before class on Monday.

Other than when you are explicitly expected to use your laptops for working on problems during class, please do not take out your laptops nor your tablets, cellphones etc. You should take notes by hand - I will post some links to research that indicates that students who write their notes long hand tend to have better retention of the material.

DISCUSSION FORUM:

We will be using Piazza for discussions. If you have a question (that is not of a personal nature, but about the material) please post it to the class piazza site. The GSIs and I will monitor Piazza, but I encourage you to answer each others' questions. That said, I encourage to think about the problem before posing it on piazza. You don't want to become too reliant on hints.

SECTIONS:

Sections meet on Tuesdays and Thursdays. They are run by the GSIs and attendance is **mandatory**.

HOMEWORK:

There will be little homework assignments assigned after each lecture that will be due by 6am the day of the *next* lecture. These will be just a few multiple choice problems on the most recent lecture material. In addition, you will turn in weekly homework problems that you will need to upload to Gradescope. This will be further explained during section.

QUIZZES AND EXAMS:

There will be a 30 minute quiz during section roughly every other Thursday. There will be 6 quizzes in total, and I will drop the lowest one while computing your grade. In addition, there will be one **in-class** midterm on Wednesday, October 11, and a comprehensive final exam on Monday, December 11. The final will be from 7-10 PM in a location that will be announced later. The quizzes will cover the material covered in lecture and section, including both conceptual material and basic R commands.

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The dates of the quizzes are:

1. Quiz 1, August 31
2. Quiz 2, September 14
3. Quiz 3, September 28
4. Quiz 4, October 26
5. Quiz 5, November 9
6. Quiz 6, November 30

ACADEMIC INTEGRITY:

Please read the university's [statement](#) on academic integrity. You will be held to the UC Berkeley [Honor Code](#).

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

Please see me as soon as possible if you need particular accommodations so that we can work out the necessary arrangements for the quizzes and exams. You are responsible for making sure that we know about your accommodations sufficiently in advance to schedule your proctoring.

GRADING:

The grading scheme will be:

- Clicker grade: **5%**
- Post-lecture multiple choice assignments: **5%** (the lowest **three** will be dropped)
- Weekly homework sets: **15%** (the lowest **two** will be dropped)
- Quizzes: **20%** (the lowest quiz score will be dropped)
- Midterm: **17%**
- Final: **38%** (if you can't take the final, please do not take the class - you will get a failing grade)

The final exam will be comprehensive. If you do better on the final than you do on the midterm, then I will replace your midterm percentage by your final exam percentage while computing your course average.

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This class is graded on a curve. Your final letter grade is calculated based on your percentile in the class according to the following grading scheme:

A+ 98-100 percentile

A 90-98 percentile

A- 80-90 percentile

B+ 70-80 percentile

B 60-70 percentile

B- 50-60 percentile

C+ 40-50 percentile

C 20-40 percentile

C- 10-20 percentile

D/F 0-10 percentile

This means that in a class of 400 people there will be roughly 8 A+ grades (2 percent of 400), 32 A grades, 40 A- grades etc.