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# STAT 151A FALL 2019

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## Linear Modeling: Theory and Applications

**INSTRUCTOR: HANK IBSER ([HANKIBSER@BERKELEY.EDU](mailto:HANKIBSER@BERKELEY.EDU))**

Office hours: Wed/Thurs 9-11am in 349 Evans

**GSIS: BILLY FANG ([BLFANG@BERKELEY.EDU](mailto:BLFANG@BERKELEY.EDU)) AND  
JACOB SPERTUS ([JAKESPERTUS@BERKELEY.EDU](mailto:JAKESPERTUS@BERKELEY.EDU))**

Billy's office hours: Tues 10-11am and Th 1-4pm, in 444 Evans

Jake's office hours: Monday 10-12 and Wed 3-5pm in 444 Evans

**TEXT, RESOURCES:**

*Applied Regression Analysis & Generalized Linear Models*, 3rd edition, by John Fox. I'll also refer to *Linear Models with R*, by Julian J. Faraway, which is available free online [here](#).

Lectures are screen cast and can be accessed through Course Capture on bcourses.

**PREREQUISITES:**

Stat 135, which implies 134 and its prerequisites, most importantly you should have had linear algebra and be familiar with basic matrix operations, vector subspaces and projections. Stat 133 is highly recommended. We'll be doing quite a lot in R and if you haven't had a course using R before you'll have to put in a lot of time and frustration learning to code in addition to the regular course material.

**LAPTOPS IN LECTURE:**

I will use RStudio in lecture pretty often. If you want to follow along in RStudio (or take notes on your laptop) during lecture, you are welcome to do so. Often it is nice to change the code I'm doing slightly to see what happens. However, please restrict yourself to course related activities on your computer during lecture, it can be distracting to those around you. If you absolutely can't stop yourself, please sit in the back of the class.

**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 also want you to think about the problem *before* posting it on Piazza. You don't want to become too reliant on hints. Please don't post full answers or code on piazza. We do our best to respond within 24 hours, but if you post in the evening for a HW due that night, you should not expect to get a response.

**SECTIONS:**

Sections meet on Fridays. They are listed as lab sections but I will usually call them discussion or just section. You should bring your laptop to section, the focus will generally be on computing.

**HOMEWORK:**

You will turn in homework assignments, due Friday nights by 11pm roughly every other week, that you will need to upload to Gradescope.

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## QUIZZES AND EXAMS:

There will be 30 minute quizzes during section roughly every other week (generally the weeks you don't have an assignment due). There will be one **in-lecture** midterm on **Wednesday Oct 9**, and a cumulative final exam on **Wednesday Dec 18, 7-10pm**.

## DATA ANALYSIS PROJECT:

You will do a final project at the end of the semester in which you will analyze a dataset using methods learned in the class. We will discuss specifics later in the semester.

## GRADING:

- Homework sets: **10%** (the lowest homework will be dropped)
- Quizzes: **10%** (the lowest quiz score will be dropped)
- Data analysis project: **20%**
- Midterm: **15%**
- Final: **45%** (if you can't take the final, please **do not** take the class - you will get a failing grade)

## ABOUT THE COURSE & LEARNING GOALS

I recommend that you read relevant sections of the text before lecture. I'll post a schedule soon, but it will be somewhat tentative and you should come to lecture regularly so you know exactly where I am. I try to make lectures as interactive as possible, so please participate. Answering questions incorrectly is a great way to learn and for me to explain common misconceptions. Be wrong often!

## ACADEMIC INTEGRITY:

Please read the university's [statement](#) on academic integrity. You will be held to the UC Berkeley [Honor Code](#). Anyone cheating on a quiz or exam will receive a failing grade and will also be reported to the University Office of Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not communicate with others during the quizzes and exams. You are welcome to discuss the homework problems, both from the text and coding problems, with other students, but write them up on your own so that you learn the material.

## 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 needs sufficiently in advance to schedule your proctoring with the DSP proctoring services.

## SCHEDULING CONFLICTS:

Please send me an email ASAP about any potential conflicts. I will try my best to help you with making accommodations, but cannot promise them in all cases. In the event there is no mutually workable solution, it may be best to drop the class.