

Social Sciences 12Y: Data Visualization in the Social Sciences, Winter 2020

Monday 2:10pm – 4:00pm, The Grove (Surge III) 1309

Instructors		Office Hours
Prof. Ryan Finnigan	rfinnigan@ucdavis.edu	Wed. 2:15–4:15pm, SSH 2259
<i>Teaching Assistants</i>		
Kenneth Lee	honlee@ucdavis.edu	Fri. 3:10 – 4:40pm, Sciences Lab Building 2060
Lauren Mabe	lmabe@ucdavis.edu	Thu. 1:40 – 4:10pm, Hunt 158

Lab Sections

A01: Mabe	Friday 9:00 – 10:20 am	Sciences Lab Building 2060
A02: Mabe	Friday 10:30 – 11:50 am	Sciences Lab Building 2060
A03: Lee	Friday 12:10 – 1:30 pm	Sciences Lab Building 2060
A04: Lee	Friday 1:40 - 3:00 pm	Sciences Lab Building 2060

Resources

- *Required Text:* Wong, Dona. 2013. *The Wall Street Journal Guide to Information Graphics*. New York: W.W. Norton & Company.
- Online articles and PDFs on Canvas
- iClicker or REEF app

Description

Introduction to quantitative data across social sciences, including organizing data, describing data sets, graphing, and visual reasoning. Examples will be drawn from Communications, Political Science, Psychology, Sociology, and other disciplines. In this course, students will learn to...

- read and understand quantitative data as presented in empirical reports in the Social Sciences
- understand the decisions around appropriate data management and summarization
- produce spreadsheets demonstrating appropriate data management and summarization using current software
- understand the decisions around appropriate presentation of data
- produce graphs, figures, and tables using current software
- describe patterns in data, draw and justify conclusions from data

Course Structure

This is a hybrid course that makes extensive use of both online and live teaching. According to university guidelines, a 4-unit course assumes approximately 12 hours of work each week. Each week, you will:

1. attend a 2-hour live lecture section
2. spend up to 5 hours, on your own time, watching video tutorials, video lectures, exploring data sets, producing data summaries and graphs and taking online quizzes.
3. attend a 1:20-hour live laboratory section
4. remaining 4 hours per week to be spent on readings or additional practice or study

1. Live Lecture

Each week you will attend a 2-hour live lecture. These lectures will focus on applying the module content to real world examples and extending your understanding of the nuances of the topic. Participation in lecture will be tracked using iClickers. I may make important announcements at the beginning of class, so make sure you get these from a classmate if you're not present.

2. Online Tutorials, Lectures, and Exercises (*Practice and Explore*)

To gain hands-on skills and an initial understanding of the concepts, each unit is introduced through online tutorials and lectures. You will work through these tutorials and the supporting lecture material at your own pace on your own schedule.

3. Laboratory (*Demonstrate, Question and Explain*)

Students will meet with a teaching assistant for 1:20 per week, in a computer lab. These small-group (25 students) meetings will be opportunities to have a topic more fully explained, to have questions answered and to actively engage with the material.

Most lab sessions will include an opportunity for students to address any questions while reviewing and consolidating the current material and working in teams to take on further challenges. Most lab sessions will include a 30-minute hands-on quiz (open note). You will have prior access to the LabQuiz data set and are encouraged to explore it. These quizzes allow you to earn credit for your understanding of the online tutorials. Please attend the lab section corresponding to your registration. The lowest score on the lab quizzes will be dropped. *No exceptions will be made otherwise*

4. Theory Challenges (*Thinking Like a Social Scientist*)

During the quarter, you will be presented with multiple opportunities to tackle a data set and draw conclusions about competing theories. You will apply your data managing, summarizing and visualizing skills to interpret the data and decide which theory is supported. You will submit a written report to Canvas on each of these Theory Challenges. You will also submit a recorded presentation on the second challenge, and peer-review the recorded presentations.

5. Exams (*Show Your Understanding*)

There will be 2 multiple-choice midterms. You will need to bring a UCD2000 scantron and a #2 pencil to the exams.

6. Optional Final Project (*Spread Your Wings*)

Once you have mastered the data skills in this course, you may choose to submit an optional final project. This project will involve analyzing a data set and writing your own discovery. If you choose to take on this project, the grade that you earn will replace the lowest one of your midterm exams or theory challenge papers.

Evaluation

Exams	30%
Theory Challenges (write-ups and presentation)	30%
Lab Quizzes (drop lowest)	30%
Participation (lab and lecture, peer review, drop 10%)	10%

Final Grades

A+ 97 - 100	B+ 87 - 89.99	C+ 77 - 79.99	D+ 67 - 69.99	F below 60
A 93 - 96.99	B 83 - 86.99	C 73 - 76.99	D 63 - 66.99	
A- 90 - 92.99	B- 80 - 82.99	C- 70 - 72.99	D- 60 - 62.99	

Course Expectations

- *Academic Integrity:* Group discussion of course topics and material is strongly encouraged. However, your work for course assignments and exams should be your own. Academic misconduct will be reported to Student Judicial Affairs. Please consult the Code of Academic Conduct for more information.
- *Students with Disabilities:* Please notify me in the first week of the course for any necessary accommodations. Please also request a letter of verification from the Student Disability Center.
- *Communication:* Please visit office hours with any questions or issues about the material or the course itself *before* it is too late (i.e., the day before an exam or an assignment is due). Please begin the subject line for all emails with "12Y:" and maintain professional email etiquette. Email responses may take a couple days, and email will not be checked regularly during evenings and weekends. If you don't get a response in a few days, feel free to follow up.
 - *In general, any question or concern requiring a reply longer than two sentences is best discussed in office hours. I have snacks!*
 - Please double check the syllabus and relevant course documents for answers to course questions.

Course Schedule*Subject to revision throughout the quarter.*

Week	Lecture Topic	Try It! (Online)	Lab Activity
1	Introduction to Data and Variables	0	Practice Exercise & Quiz
2	Intro to Categorical Data	1	Lab Quiz 1
3	MLK Day —No In-Class Lecture	2	Lab Quiz 2
4	Counting Categorical Data	3	Lab Quiz 3
5	Theory Challenge 1 Review Midterm Exam	—	Theory Challenge 1 peer review
6	Introduction to Continuous Data	4	Lab Quiz 4
7	Presidents' Day —No In-Class Lecture	5	Lab Quiz 5
8	Distributions and Sampling	6	Lab Quiz 6
9	Group Comparisons	—	Theory Challenge 2 peer review
10	Correlations	7	Lab Quiz 7
Finals Week	Final Exam 6–8pm, Tuesday, March 17	—	Optional Final Project