SOCIOLOGY 88: Data Science for Social Impact
Spring 2022
Thursdays 10am-noon, 420 Social Science Building

Instructor: David Harding, dharding@berkeley.edu
Office Hours: Tuesdays 1-3pm (sign-up: https://tinyurl.com/hardingOH)
 or by appointment

Data Science Connector Assistant: TBD
Office Hours: TBD

Grader: Da Eun Jung, da-eun.jung@berkeley.edu

Goals: This course explores the role of social research in policy making and public decisions and develops skills for the communication of research findings and their implications in writing and through data visualization. Students will develop an understanding of various perspectives on the role that data and data analysts play in policymaking, learn how to write for a public audience about data, results, and implications, and learn how to create effective and engaging data visualizations.

Course Format: We will meet each week for two hours. How we will use this time will vary from week to week. During Part 1 of the course when we are learning about research and policy, we will mostly use our time for a seminar-style discussion. During Parts 2, 3, and 4 when we are learning more practical skills and working on projects, we will have brief lectures and do in-class lab exercises together.

Data Science Connector: This course builds on the Foundations of Data Science course (Data 8, formally COMPSCI C8 / INFO C8 / STAT C8) by teaching more advanced data visualization skills and techniques, by providing an understanding of how data is used, and by teaching how to communicate about data. Data 8 is a co-requisite. This means *you must be currently taking Data 8 this semester or have taken it in the past to take Sociology 88.*

Grading: Students will complete *their choice of 4 out of 5 assignments* (50%) and a final project (30%). The remaining 20% of the grade is for participation, including required written comments on the work of peers and responsible and effective participation in the final group project.

Course Policies

Readings
Students will be responsible for both material in the readings and material covered in class. I will post slides on the bCourses site. However, these slides are designed to be rhetorical aids and not comprehensive records of all that was said in class. Please do all

of the readings. It will be difficult to participate in class discussions and if you have not done the readings.

Attendance
Attendance is required unless you are observing a religious holiday, participating in intercollegiate athletics, are ill, or are dealing with a family emergency. Please communicate planned absences to the instructor in advance. Participation is part of your grade, and you cannot participate if you are not present in class. This course has only 14 class sessions. Attendance will be taken.

Accommodation
I will provide accommodation to any student who provides me with a written letter from a DSP Specialist. If you require accommodation, the first step is to have DSP send me an official written accommodation letter. Once I receive this letter and if I have any questions, I will contact you by email. Please arrange for me to receive the letter as early in the semester as possible. I will also provide accommodation for observation of religious rituals and for university athletic events. University policy is that such requests should be made by the second week of the semester. Please submit them by email and also remind me again as the date approaches. Further information is available at the Academic Accommodations Hub website.

Late Work
Assignments turned in late will be penalized one letter grade for every day late (e.g. one day late makes a B a C). If you have a real emergency, email the Professor about it at least 24 hours before the deadline.

Grading Policy
If you wish to contest a grade, please outline in writing via email (1) what assignment you are contesting, (2) the grade you received on the assignment, and (3) the reason(s) why you believe the grade you received is unfair. Whatever the outcome, the score from the re-grade will be final. The grade appeals process should be initiated within seven days of receiving the grade in question.

Academic Honesty
The UC Berkeley Honor Code states that, "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." (https://teaching.berkeley.edu/berkeley-honor-code) I expect that you will adhere to these principles in your conduct in the course. You may not copy specific text or ideas from others, whether from fellow students, from authors of our readings, or from authors of material you find on the internet, without specific attribution. To do otherwise is to plagiarize. You may of course discuss the lectures and readings with your fellow students, but the assignments must reflect your own independent work. Violations of these rules will result in a failing grade on the assignment and possibly on the course and may result in you being reported to University authorities.

Email
Email should not be used for substantive questions about the reading or course materials. Please ask such questions in class or sign-up for office hours. I will endeavor to respond to other email messages within 24 hours. Please wait 24 hours before emailing me a second time about the same issue.

Office Hours
I very much encourage you to sign-up for office hours. Office hours are a good time to just introduce yourself, to talk about ideas that you find particularly engaging or difficult, or to discuss problems that you may be having in the course.

Technology Policy
You are encouraged to use a laptop or tablet during class for the purpose of note taking, coding, or consulting the readings. Beginning in week 7, we will be using Jupyter Notebooks in class and for assignments. Please do not use your cell phone during class. Please do not text, chat, surf the web, read the news, or watch videos during class! This behavior is distracting to other students.

Ed
We will use the online tool Ed for posting and answering questions in the course. You can access our Ed site through bcourses.

Course Outline

Part 1: Research and Policy
> *Goal:* Understand the various ways in which research is used in policymaking and the role of the researcher in policy development

Week 1 (Jan 20): Introduction

Elizabeth Grant. 2019. Building the Policy Wave: The Power of Data-based Storytelling. William T. Grant Foundation

John W. Kingdon. 1984. Agendas, alternatives, and public policies. New York: Little, Brown. (Chapter 9)

Week 2 (Jan 27): Research and Policymaking

Kim DuMont. (2019). Reframing evidence-based policy to align with the evidence. New York: William T. Grant Foundation.

Carol H. Weiss. (1977). Research for policy's sake: The enlightenment function of social research. *Policy Analysis*, 3(4), 531-545.

Week 3 (Feb 3): Critical Approaches and Engaged Research

Fabienne Doucet. (2019). Centering the margins: (Re)defining useful research evidence through critical perspectives. New York: William T. Grant Foundation.

Jenny Irons. (2019). Shifting the lens: Why conceptualization matters in research on reducing inequality. New York: William T. Grant Foundation.

Assignment #1a: Short Paper, Approaches to Research and Policy (rough draft), Due Feb 9, 5pm (provide peer feedback by Feb 11, 7pm)

Part 2: Writing for a Policy Audience
Goal: Develop skills in writing for a policy audience

Week 4 (Feb 10): Introduction to Writing for a Policy Audience

Arlene Stein and Jessie Daniels. 2018 *Going Public: A Guide for Social Scientists.* University of Chicago Press. Chapter 1

Harry Guinness. "How to Edit Your Own Writing" New York Times, April 7, 2020
https://www.nytimes.com/2020/04/07/smarter-living/how-to-edit-your-own-writing.html

Laura ffrench-Constant. How To plan, write and communicate an effective Policy Brief: Three Steps to Success. Research to Action.
https://www.researchtoaction.org/wp-content/uploads/2014/10/PBWeekLauraFCfinal.pdf

Assignment #1b: Short Paper, Approaches to Research and Policy (final draft), Due Feb 16, 5pm

Week 5 (Feb 17): Case Study 1: The policy brief

Sara Wakefeld and Christopher Wildeman, 2018, How Parental Incarceration Harms Children and What to Do About It.
https://www.ncfr.org/sites/default/files/2018-01/How%20Parental%20Incarceration%20Harms%20Children%20NCFR%20Policy_Full%20Brief_Jan.%202018_0.pdf

Laura Ridolfi and Tracy Benson, 2016, Decriminalizing Childhood for Youth of Color https://drive.google.com/file/d/0B5OY2mjuvIznSDhsTkU2LVV3SkU/view

Philip Cook and Jens Ludwig, 2011, More Prisoners Versus More Crime is the Wrong Question. https://www.brookings.edu/wp-content/uploads/2016/06/12_prisons_cook_ludwig.pdf

Assignment #2a: Policy Brief (rough draft), Due Feb 24, 5pm (provide peer feedback by Feb 26, 7pm)

Week 6 (Feb 24): Case Study 2: The Op-Ed

Guidelines for Op-Ed Pitching

White, Ariel. (2019). Misdemeanor Disenfranchisement? The Demobilizing Effects of Brief Jail Spells on Potential Voters. *American Political Science Review*, 1-14. doi:10.1017/S000305541800093X (skim)

White, Ariel. 2019. "Even very short jail sentences drive people away from voting." *Washington Post*.

J.J. Prescott and Sonja B. Starr. 2019. Expungement of Criminal Convictions: An Empirical Study. University of Michigan Law School, Law and Economics Research Paper Series, Paper 19-001. (skim)

J.J. Prescott and Sonja B. Starr. The Case for Expunging Criminal Records, *The New York Times*, March 20, 2019.

Assignment #2b: Policy Brief (final draft), Due March 2, 5pm

Part 3: Creating Effective and Ethical Visualizations
Goals: Develop skills in data visualization in Python, Understand privacy risks in data visualization

Week 7 (March 3): Charts and Graphs, Coding basic visualizations

Claus O. Wilke. *Fundamentals of Data Visualization*. O'Reilly. https://serialmentor.com/dataviz/
(Sections: 1-7, 10-12, 14)

"No More Basic Plots Please: A Quick Guide to Upgrade Your Data Visualizations using Seaborn and Matplotlib"
https://medium.com/python-in-plain-english/no-more-basic-plots-please-59ecc8ac0508

Assignment #3a: Op-Ed (rough draft), Due March 9, 5pm (provide peer feedback by March 11, 7pm)

Week 8 (March 10): Principles of Effective Data Visualization

Claus O. Wilke. *Fundamentals of Data Visualization*. O'Reilly.
https://serialmentor.com/dataviz/
(Sections: 17-26, 29)

Tableau. Visual Analysis Best Practices: Simple Techniques for Making Every Data Visualization Useful and Beautiful

Assignment #3b: Op-Ed (final draft), Due March 16, 5pm

Week 9 (March 17): Mapping Part A
Campbell & Shin, Geographic Information System Basics, v1.0 (chapters 1-2)
https://2012books.lardbucket.org/books/geographic-information-system-basics/index.html

*** no class (March 24) – Spring Break ***

Assignment #4: Data Visualization 1, Due March 30, 5pm

Week 10 (March 31): Mapping Part B
Axis Maps Cartography Guide https://www.axismaps.com/guide/

Assignment #5: Data Visualization 2, Due April 6, 5pm

Week 11 (April 7): Data Ethics and Data Justice

DIAMANTE Case Study Sheet

[Video Introduction to DAMANTE Case](#) (10 minutes)

Catherine D'Ignazio and Lauren F. Klein. 2020. *Data Feminism.* Introduction: Why Data Science Needs Feminism.

Part 4: Student Projects

Goal: Students will bring together the knowledge they have learned in Parts 1-3 and their knowledge of data analysis from Data8 to conduct an analysis, visualize results, and convey their importance to a non-technical audience.

<u>Weeks 12-14</u> (April 14, 21, 28): Individual Meetings and Lab Sessions; students work on final projects and share working drafts.

Final Project Due Friday May 6, 5pm