Syllabus for PS 88: The Scientific Study of Politics; Fall 2021

Timing and Personnel

Th 2:00-3:59PM, 102 Wurster

Instructor: Andrew Little, andrew.little@berkeley.edu

Instructor Office Hours: Monday 10-12am. For in person meetings, Social Sciences Building 736. (Link to sign up: https://andrew-little.youcanbook.me)

Reader: Diego Villegas, diego_villegas_a@berkeley.edu

Course Assistants: Akhila Kandaswamy, akhila.kandaswamy@berkeley.edu; Justin Fung, justinfung@berkeley.edu

Office hours for Reader and Course Assistants: See Piazza

Connection to Data 8

This is a connector course to Data 8, so to take PS 88 you must be concurrently enrolled in Data 8 or haven taken it before. The pacing of the class will be primarily aimed at those concurrently enrolled, i.e., we will mostly build on what has been covered by Data 8 earlier in the semester.

Course Goals

The study of politics has become increasingly data-driven. For data to provide insight into how the political world works, we need to do two things. First, we need to have the right statistical and programming tools to collect, clean, and analyze data. Second, we need to know how to combine empirical results with theory. Data cannot speak for itself; it only has meaning when it changes our theoretical understanding of (political) processes.

More practically, the course is divided into two parts. In the first part, we will focus on the theoretical side of political science. The main goals here are to understand what makes a good political science theory, and to give a brief overview of how game theory and related tools make up a powerful way to construct theories. While this side of the class will be less data-focused, we will also see how the programming tools you learn in Data 8 can be used in this part of the scientific process.

Next, we will pivot to the empirical side. In order to test theories and have actionable knowledge, it is particularly important (and challenging!) to make causal claims from data. In the second part of the class, we will cover how political scientists and other social scientists think about the challenges of causal inference, and the tools we use to overcome them.

How to succeed in this class

Every student at Berkeley can do well in this course. Here are some foolproof methods to make sure you do so:

1. Do the readings and show up to class. We will start going through the labs together, so this will give you a start on those, and also make sure we are on the same page.

2. Make or join a study group. There is a form on Piazza for finding others to work with.

3. Get started on assignments as soon as feasible, and don't hesitate to ask your peers and the instructors when you need help.

Communication

We will use Piazza as a public forum for questions. This is also where readings and other announcements will be posted. If not automatically enrolled, you need to sign up for Piazza here: `piazza.com/berkeley/fall2021/ps88`

As a general rule, if you have a question that may be of interest to others in the class, your first instinct should be to post it on Piazza: I will closely monitor the forum and answer questions just as quickly as by email, as will other instructional staff. For individual-specific questions you can send a private message on Piazza or email me (andrew.little@berkeley.edu).

Textbook

The only text required for purchase is "Mastering Metrics: The Path from Cause to Effect" by Joshua Jorn-Steffen Pischke. This will be supplemented by other readings which will be distributed via Piazza.

Structure of Class

We will meet for two hours a week. In general, I will spend the first 60-90 minutes of class lecturing on the material for the week, and the rest of class will be spent starting to work through the weekly lab, first as a class, and then with your lab partners.

Evaluation

Final grades will be based on the following:

- Labs: 50%. Most week there will be a lab where we explore the concepts covered in class using a Jupyter notebook. Those who attend class will be randomly assigned a lab partner, and the two of you will turn in one notebook. If you do not attend class, you will work on the lab alone. Unless otherwise noted, the lab will be due the following Wednesday. In general, my expectation is that you will spend about an hour or two a week finishing the lab outside of class. We will drop the lowest lab score when computing your grade.

- Project: 50%. To put the skills you learn in class to use, you will replicate and extend the analysis of a published paper. We will provide a few options so you can work on a topic that interests you. The project will be broken into three parts. Part 1 (10% of the final grade) will involve reading the paper and discussing the theoretical and empirical claims. Part 2 (20%) of the final grade will be a guided replication of parts of the paper. Part 3 (20% of the final grade) will be where you introduce new data or use alternative methods to extend the paper. **Tentative due dates** (final information will be posted on Piazza):

    - Part 1: 10/21
    - Part 2: 12/2
    - Part 3: 12/14

Academic Honesty

Learning technical material is a collaborative process, and we expect that you will discuss the lab and projects with each other and with instructors. However, it is important that everything you turn in is your own work in your own words.

The policies for academic honesty for this class are the same as Data 8. For completeness, they are reproduced below:

"You must write your answers in your own words, and you must not share your completed work. The exception to this rule is that you can share everything related to a project with your project partner (if you have one) and turn in one project between the two of you, and if you are attending a lab session and have a lab partner you can share everything related to that lab with your lab partner.

Make a serious attempt at every assignment yourself. If you get stuck, read the textbook and go over the lectures and lab discussion. After that, go ahead and discuss any remaining doubts with others, especially the course staff. That way you will get the most out of the discussion.

It is important to keep in mind the limits to collaboration. As noted above, you and your friends are encouraged to discuss course content and approaches to problem solving. But you are not allowed to share your code or answers with other students. Doing so is considered academic misconduct, and it doesn't help them either. It sets them up for trouble on upcoming assignments and on the exams.

In addition, posting course content such as homeworks, projects, and exams on any 3rd party websites or submitting your own answers on outside sites/forums is considered academic misconduct.

You are also not permitted to turn in answers or code that you have obtained from others. Not only does such copying count as academic misconduct, it circumvents the pedagogical goals of an assignment. You must solve problems with the resources made available in the course. You should never look at or have in your possession solutions from another student or another semester.

Please read Berkeley's Code of Conduct carefully. Penalties for academic misconduct in Data 8 are severe and include reporting to the Center for Student Conduct. They might also include a F in the course or even dismissal from the university. It's just not worth it!

When you need help, reach out to the course staff using [Piazza], in office hours, and/or during labs. You are not alone in [PS 88]! Instructors and staff are here to help you succeed. We expect that you will work with integrity and with respect for other members of the class, just as the course staff will work with integrity and with respect for you.

Finally, know that it's normal to struggle. Berkeley has high standards, which is one of the reasons its degrees are valued. Everyone struggles even though many try not to show it. Even if you don't learn everything that's being covered, you'll be able to build on what you do learn, whereas if you cheat you'll have nothing to build on. You aren't expected to be perfect; it's ok not to get an A."

Late Assignments

Extensions and permission to submit late work will only be granted in extenuating and unavoidable circumstances outlined to the instructors in writing prior to the due date in question. Such circumstances include medical or family

emergencies. Multiple assignments from other courses scheduled for the same date – or other work commitments – do not constitute acceptable reasons for extensions, so please plan accordingly. Late assignments will be penalized by 10% per day late.

Appealing Grades

If you believe your grade on an assignment does not reflect the quality of the work, you can appeal given the following guidelines:

- Wait 24 hours, but no more than a week after receiving the grade

- If you still would like to appeal, email the reader a clear and short explanation of why you believe the grade is incorrect. If necessary, they will consult me.

- We reserve the right to give a *lower* grade following any appeal

Accessibility Needs

If you have a condition that affects your ability to participate fully in class or to meet all course requirements (in addition to the usual DSP accommodations), please speak with me ASAP that we can work together to make appropriate arrangements. This syllabus and other course materials can be made available in alternate formats.

Schedule

Week 1 (8/26): Introduction, the scientific process

Read:

- Paul Kellstedt and Guy Whitten, "The Fundamentals of Political Science Research", Chapter 1

Lab: Replicating a figure

Week 2 (9/2): Theory and models

Read:

- Kevin Clarke and David Primo, "A Model Discipline: Political Science and the Logic of Representations", Chapter 3

Lab: The Schelling segregation model

Week 3 (9/9): Preferences, utility, and expected utility

Read:

- Andrew Little, "Lecture Notes on Preferences"

- William Riker and Peter Ordeshook, "A Theory of the Calculus of Voting"

Lab: Simulating the probability a vote matters

Week 4 (9/16): Game theory and collective action

Read:

- Macartan Humphreys, "Political Games", pages vii-xv and 2-7

Lab: Finish up week 3

Week 5 (9/23): Game theory and electoral competition

Read:

- Kenneth Shepsle and Mark Bonchek, "Analytic Politics", pages 104-115

Lab: The median voter in theory and data

Week 6 (9/30): Causal inference and potential outcomes [TAUGHT REMOTELY]

Read:

- Angrist and Pischke, Introduction and p 1-11

Lab: Potential outcomes, Tables, and Pandas

Week 7 (10/7): Experiments

Read:

- Angrist and Pischke pp 11-24

Lab: Simulated and real experiments

Week 8 (10/14): Correlation and bivariate regression

Read:

- Computational and Inferential Thinking, 15.1-15.4

Lab: Correlation with different causation

Week 9 (10/21): Multivariate regression [TAUGHT REMOTELY]

Read

- Angrist and Pischke Chapter 2

Lab: The political impact of the Affordable Care Act

Week 10 (10/28): Experiments with imperfect compliance (instrumental variables)

Read:

- Angrist and Pischke Chapter 3

Lab: Does health insurance improve health?

Week 11 (11/4): Regression discontinuity

    Read:

- Angrist and Pischke Chapter 4

    Lab: The returns to officeholding in the UK

Note: no class on 11/11 (Veterans Day)

Week 12 (11/18): Differences in differences

    Read:

- Angrist and Pischke Chapter 5

    Lab: The Fox News Effect

Note: No class on 11/25 (Thanksgiving)

Week 13 (12/2): Practicalities

    Lab: Merging and recoding data

Week 14 (12/9): Overflow