PS 15. Introduction to Research in Political Science
Department of Political Science
University of California, Santa Barbara
Spring 2022

Professor:
Paasha Mahdavi <paasha@ucsb.edu>

Teaching Assistants:
Dan Gamarnik <dgamarnik@ucsb.edu>
Medha Monjaury <medha@ucsb.edu>
Ilia Nikiforov <ilia@ucsb.edu>

Sections, Monjaury:
Thursday at 2:00pm, 4:00pm; Friday at 1:00pm

Sections, Nikiforov
Thursday at 5:00pm; Friday at 10:00am, 11:00am

Sections, Gamarnik:
Friday at 12:00pm, 2:00pm, 3:00pm

Course Description

Political science is a discipline within social science that uses statistics and research design to understand and explain political phenomenon. If you want to understand and interpret political science research, you need to understand how it is done. The goal of this course is to understand the process social scientists use to test theories, and discover patterns in data.

This course teaches basic statistical techniques that are useful for describing and making inferences from data. The course will also familiarize students with R, a widely used and free statistical platform for analyzing data. By the end of the course, students should be able to understand and critique research, and perform basic statistical analyses in R.

You can only learn statistics by doing statistics. You can only learn to code by trying to code. In recognition of this fact, the homework for this course will be *extensive*, requiring students to complete 5 problem sets over the quarter. In addition, students will have two exams: a midterm and a final. **Students must attend section once a week in addition to the twice a week lecture**. Students will also participate actively using a combination of online forums, virtual and in-person office hours, and in-person section participation. In other words, this course is a significant amount of work. Ensure you have the time in your schedule this quarter to do the work necessary to excel in this course.

Course Policies

Software

We will be using R, which is an open-source (free) statistical package. This program requires writing code. RStudio is a very useful tool that makes coding in R easier. We will be using R Markdown in RStudio.

We are hoping that you will be able to use R and RStudio without installing it on your computer. Instead, you will access the software using an internet browser. The link will be available during the first week of class. If you would prefer having the software installed on your computer, if you have one, you can download R from the web here: http://cran.r-project.org/ and you can download RStudio from the web here: https://www.rstudio.com/

Here's a helpful website to get you started with R:
https://www.codecademy.com/learn/learn-r

Requirements & Evaluation

Problem sets (50%): There will be 5 weekly problem sets over the course of the quarter. They will focus on statistics, coding in R, as well as ensuring you understand research design. These assignments will be available on Thursday mornings (or earlier) and will be due the following week, by Thursday at 11:55am (just before noon). Late problem sets will not be accepted.

Midterm (15%): A midterm will be held as a 75-minute take-home online exam in Week 6.

Final (25%): A final exam will be held as either a take-home online exam or an in-person exam in Week 11. It will cover all the topics from the course, with greater emphasis on topics not covered in problem sets or the midterm.

Participation (10%): Students are assigned to one of nine sections. These will be led by your TA. **You must attend these, and you must attend the section to which you are assigned**. While the lectures will focus on conveying research methods, in section you will predominately learn and practice R. That said, section may be used for review of class concepts or background material from time to time. *Section attendance will be taken and counts towards your 5% of your total grade (50% of your participation grade).* Given the TAs have a lot to cover in every session, please arrive on time: *late arrivals will negatively affect your grade.* The other half of your participation grade will be based on your participation in section or in the online discussion forum.

Grading

Problem sets will be graded on a 10-point scale. You will receive letter grades for the exams, which will be curved based on the distribution of numeric scores for each exam. The TAs will do their best to get grades to you as soon as possible given there are 135 students – thank you for your patience.

Assignment	Week	Due Date
Problem Set 1	2	Thursday 7 April, 11:55am
Problem Set 2	3	Thursday 14 April, 11:55am
Problem Set 3	4	Thursday 21 April, 11:55am
Midterm exam	6	Wednesday 4 May, 11:00am-12:15pm
Problem Set 4	7	Thursday 12 May, 11:55am
Problem Set 5	8	Thursday 19 May, 11:55am
Final exam	11	Thursday 9 June, 12-3pm

Rules and Guidance on Problem Sets:

Students are encouraged to discuss challenges they encounter in solving the problem sets with each other. However, every step of every problem must be produced by the individual student, and all work must be written up independently. Neither code nor written solutions may be copied verbatim. For analytical questions, you must include your intermediate steps, as well as comments on those steps when appropriate such that we can understand your reasoning. For data analysis questions, include annotated code as part of your answers.

Your problem set must list the names of any students with whom you have worked on the problems. In addition to working with your peers, if you run into trouble try googling things: there are tons of resources on the internet to help you learn statistics and R. You can also use the Gauchospace forum to post questions, which you and TAs can help answer. Note that asking and answering questions on the forum is part of your participation grade.

Problem sets are to be written in a language called R Markdown. The problem sets on the course website will be posted online in this format. You can easily open these in the R Studio software. This will make it easy for you to write your responses in using the same formatting and language. As a result, your problem sets will automatically include the results of running your code in HTML. All problem sets will be submitted online—both the R code and the HTML—through Gauchospace.

Late problem sets will not be accepted and receive a score of zero. In extreme cases, students may obtain permission for a late submission from their TA at least three days prior to the due date. Permission cannot be obtained after the fact.

Readings

The textbook is *Real Stats* by Michael A. Bailey. A few additional readings, primarily political science research articles, will be posted on Gauchospace. These readings will help students see the ideas learned in the textbook in action, in actual political science research. It's important to read these articles: they will come up on problem sets.

In this course, we use a custom print of *Real Stats* that only covers the material used in the course; as a result, the textbook can be offered more cheaply than if students had to

purchase the entire text. Given the unusual circumstances we face with supply chain holdups, PDFs of the first two chapters will be posted on Gauchospace; for copyright reasons, I cannot post any additional chapters online. The print book is available for purchase at the campus bookstore ($34-$46) or you can rent the e-book ($19). Note that we are using a reduced version of the textbook, so the price will be much higher if you do not buy it from the bookstore.

Students should come to each lecture prepared, having read the assigned readings for that section of the course. This approach will greatly help with understanding the material in class, and with completing the problem sets.

Articles (posted on Gauchospace)

Wand, J., Shotts, K., Sekhon, J., Mebane, W., Herron, M., & Brady, H. (2001). The Butterfly Did It: The Aberrant Vote for Buchanan in Palm Beach County, Florida. *American Political Science Review*, *95*(4), 793–810.

Kalla, J. L., & Broockman, D. E. (2015). Congressional Officials Grant Access Due To Campaign Contributions: A Randomized Field Experiment. *American Journal of Political Science*.

Bateson, R. (2012). Crime Victimization and Political Participation. *American Political Science Review*, *106*(3), 570–587.

Gerber, A. S., Green, D. P., & Larimer, C. W. (2008). Social Pressure and Voter Turnout: Evidence from a Large-Scale Field Experiment. *American Political Science Review*, 102(01).

Gerring, J. (2007). The Case Study: What it is and what it does. In C. Boix & S. C. Stokes (Eds.), *The Oxford Handbook of Comparative Politics*.

Seawright, J., & Gerring, J. (2008). Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options. *Political Research Quarterly*, 61(2), 294–308.

Imai, K. (2018). *Quantitative Social Science: An Introduction*. Princeton University Press. (Chapter Five.)

Course Schedule & Required Readings

Laptop- and cellphone-free lecture: Why? It reduces your and your peers' ability to learn (see: http://bit.ly/1rxdpA7). Failure to comply will negatively affect your grade.

Weekday	Date	Topic	Readings
Monday	28-Mar	Introduction	
Wednesday	30-Mar	Causality	Ch 1
Monday	4-Apr		Ch 1
Wednesday	6-Apr	Data and Coding	Ch 2, Appendix excerpt
Monday	11-Apr		Ch 2, Appendix excerpt
Wednesday	13-Apr	Bivariate OLS	Ch 3
Monday	18-Apr		Ch 3
Wednesday	20-Apr		Wand et al. 2001
Monday	25-Apr	Hypothesis Testing	Ch 4
Wednesday	27-Apr		Ch 4
Monday	2-May		Kalla & Broockman 2015
Wednesday	4-May	**Midterm exam**	
Monday	9-May	Multivariate OLS	Ch 5
Wednesday	11-May		Bateson 2012
Monday	16-May	Types of Variables	Ch 6 (sections 6.1-6.3)
Wednesday	18-May	Experiments	Ch 10, Gerber, Green & Larimer 2008
Monday	23-May	Case Studies	Gerring 2007 (pp. 90-98); Seawright & Gerring 2008
Wednesday	25-May	Data Science for Politics	Imai 2018 Ch 5
Monday	30-May	*Memorial day - no class*	
Wednesday	1-Jun	Summary	
Thursday	9-Jun	**Final exam**	

Final Thoughts – Best Practices for Succeeding in this Course:

1. Don't plagiarize or cheat: UCSB defines plagiarism as "the use of another's idea or words without proper attribution or credit." It is a serious academic offense. For this course, you may discuss problem sets with fellow students. But, in these problem sets, you must on your own put the answer to the questions down on paper in your own words. In the case of the midterm, you may not discuss the questions or your answers with others until the Friday after the midterm. Plagiarism and other types of academic dishonesty will be reported to the Student Judicial Affairs Office for disciplinary action and will result in an automatic fail. If you are not sure what constitutes plagiarism, ask either the Professor or the TA. Also ask us for help if you're struggling before you resort to such desperate measures.

2. Hand in all the assignments: It's best to give every assignment a try and hand it in. The vast majority of students do this. However, sometimes when a student is struggling they don't hand in any assignment. This is the easiest way to end up failing the class, or dramatically reducing your grade. So, hand in something every single time we ask, and you will be much more likely to succeed in the course.

3. Take advantage of opportunities for extra credit: If you want to improve your grade in the course, apart from putting in extra effort, attending TA office hours and the lecture, the best way to do it is by completing little extra credit questions throughout the quarter. There are no 'grade bumps' after the fact, so please do not ask. Instead, take advantage of the extra credit opportunities and you will get a few extra points on your final grade.

4. Study hard for the midterm and the final exam: We will give lots of guidance in class on what you need to know for both of the tests. But, students still have to do the hard work of mastering this material. Put in the extra time for these two, key tests and you will succeed in the class. If you don't study, these tests will drag down your grade.

5. Take care of your health and wellness: Statistics can be hard material. You're much more likely to understand the ideas and coding if you are eating well, sleeping well and taking care of your health and wellness. Keep in mind there is a food bank on campus for students who need extra support to get healthy food: https://foodbank.as.ucsb.edu/. There is also a counseling service on campus, CAPS: http://caps.sa.ucsb.edu/ and a sexual violence support center: http://sexualviolence.ucsb.edu/. Seek out help when you need it and support your fellow students' health and wellness if they need help.

If you are facing any challenges in food or housing and believe this may affect your performance in the class, you are urged to meet with a Food Security and CalFresh Advocate who is aware of the broad variety of resources that UCSB has to offer. See their drop-in hours at http://food.ucsb.edu/. You are also urged to contact the professor if you feel comfortable doing so.

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