

POLS 5020: Research Methods

Spring 2024 – Wednesdays 4:15-7:00 pm, McGannon 144

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Office Hours: Mondays 11:00-12:00 am and by appointment, McGannon 133

Course Description and Introduction

How do voters hold government accountable? Do democratic governments generate better economic growth? What can be done to reduce police violence?

These questions, like countless others about the world we live in, are best answered with data. This course presents the fundamental tools that social science researchers use to ask and answer “empirical” questions, meaning questions which require evidence. You will learn to use the scientific method to create evidence about the way political actors operate and interact with one another. Over the course of the semester, we will develop a basic toolkit that you can use to ask and answer questions that are important to you.

This course will cover qualitative and quantitative methods. Many of the topics we cover – theory building, accuracy and precision, hypothesis testing, and field research – transcend any division between the two methods. You will learn to do evidence-based research; evidence comes in many forms.

This class is geared towards Political Science MA students. However, early-stage graduate students in any social science discipline should find it useful and are welcome to enroll. I also welcome undergraduate students who want to dig a bit deeper into the basic toolkit of social science research and are up for a small challenge (really, just a small one!).

You can succeed in this class without doing any math by hand, though you will learn how to tell a computer to do complex math on your behalf. Rather, the course explains how scientific methods of inquiry can be used for research on politics, presents a toolkit developing and answering questions you care about, and trains you to use those tools productively.

For the portions of the class that involve statistics, we will use Stata. A copy of Stata will be provided for you to install on your personal laptop, and you’ll need to bring that laptop with you to class every day. I will use examples from Stata in class, and you are expected to turn in assignments completed in Stata.

Course Goals

By the end of this course, you will:

- Produce knowledge using scientific methods and empirical evidence
- Identify the limitations of statistics presented in the media and communicate those limitations effectively to a non-specialist audience
- Understand and evaluate the claims, strengths, and weaknesses of qualitative and quantitative evidence in contemporary social science research
- Use statistical methods appropriately to draw inferences about politics
- Interpret and evaluate evidence presented in political science research

A Note on Learning Methods

Empirical (i.e. evidence-based) analysis involves a lot of judgement calls. There is very rarely a single, clear-cut “right” way to test a hypothesis. The messier the data, the truer this statement. This can be frustrating because, as a student, you want someone to tell you when you’ve arrived at the right answer. Unfortunately, there can be more than one right answer, and varying degrees of what’s “right.” Expect to have to justify the decisions you make. If you can do that convincingly, then you have probably arrived at **a** right answer.

Everyone learns differently. This course exposes you to four sets of voices on any given topic: your professor, the textbook author, the supplementary reading authors, and your classmates. This repetitive approach is by design. If my explanations aren’t working for you, it does not mean you’re doing anything wrong (nor does it mean I’m a bad teacher, though it might if the entire class thinks my explanations are useless). It just means that you need the explanation from another voice. The key is to seek out the style that works for you.

Students come to this class with widely-varied experiences. You should never, ever be afraid to admit you don’t understand something, even if your classmates appear to understand it. Ask questions, and keep asking until you are fully satisfied.

NOTE: I’ve written out the most important course policies below in plain English. You will find the official University-mandated language for these and other policies at the end of this syllabus.

Attendance Policy

This course is designed to be “hands on,” with lots of activities and examples interspersed throughout each class. It is impossible to make up these types of classes if you are absent.

Each student is allowed **one free absence**. It will be helpful for me to know that you’re not coming, but you can simply tell me you’re using a free absence – you don’t need to say why. Each additional unexcused absence will result in a 10 point deduction from your overall course grade.

In addition to these free absences, you will be **excused** for anything that prevents you from attending class if it is both unforeseeable and out of your control. Being sick is an excused absence. If you’re not feeling well, you should not come to class. If you would like to request an excused absence, please email me as soon as is feasible.

Grading and Assignments

The assignments evaluate you based on the course goals listed above, with an emphasis on the appropriate use of a wide range of tools to ask and answer questions about politics using scientific methods and empirical evidence.

- 50% Homework and Classroom Assignments
- 25% Midterm Exam
- 25% Baby Research Paper (BRP)

Unless otherwise specified, all assignments should be uploaded to Canvas

I will convert your numeric grades to a letter course grade using this scale:

A	93-100	B+	87-89	C+	77-79	D	60-70
A-	90-92	B	83-86	C	73-76	F	below 60
		B-	80-82	C-	70-72		

Academic Integrity:

I take academic integrity very seriously. I intend to make the guidelines for each assignment clear regarding outside sources. If you are not sure what is allowed on an assignment, you should contact me for clarification. Unless I specify otherwise, assignments should be completed on your own with no input from anyone else. Unless otherwise specified, all assignments are closed-book and you may not use any resources to help complete them. Any violation of academic integrity will result in an automatic F in the class.

You should familiarize yourself with the university's general guidelines on academic integrity found here: <http://www.slu.edu/arts-and-sciences/student-resources/academic-honesty.php>

Students with Disabilities

Students with a documented need who wish to request academic accommodations are encouraged to contact the Center for Accessibility and Disability Resources to discuss accommodation requests and eligibility requirements. Please visit their website (<https://www.slu.edu/life-at-slu/student-success-center/accessibility-and-disability-resources/index.php>) for details. Please also contact me as soon as possible if you wish to discuss any of these options.

Also see: <https://www.slu.edu/provost/faculty-affairs/teaching-resources-for-faculty/course-syllabus-information/syllabus-statements/syllabus-stmt-disability-accommodations.docx>

Title IX

SLU policy and federal law requires that I pass along certain types of information that you share with me. Even if you ask me to keep the information confidential, I am not allowed to do so. You can find full information here: <https://www.slu.edu/provost/faculty-affairs/teaching-resources-for-faculty/course-syllabus-information/syllabus-statements/syllabus-stmt-title-ix.docx>

Books

The two **required** books for this class are:

- Ethan Bueno de Mesquita and Anthony Fowler, *Thinking Clearly With Data*. Princeton University Press.
- Alan Acock, *A Gentle Introduction to Stata, 6th Edition*. Stata Press.

There will also be required supplemental readings, listed below. These are either available online or I will post them on Canvas.

Software and Computer Requirements

- All students are required to bring a laptop to each class. If you do not have a laptop you wish to use, we can arrange to loan you one for the semester. Please talk to Professor Nanes if you would like to discuss this option.

- You will need to install Stata on the laptop you plan to use in this class. A Stata license will be provided to you free of charge at the beginning of the semester. We will download and install Stata together during class. You do not need to do anything before the semester starts.

Course Outline

*Homework assignments are due the following Tuesday at 9 am (the day before the next class). For example, the assignment listed under Week 1 should be turned in via Canvas by 9 am on the Tuesday of week 2.

*Reading assignments are listed for the day on which we will discuss them.

1. January 17th: The Scientific Method
 - READING for 8/30:
 - BDM and Fowler, ch. 1 (all pages) and ch. 2 p.13-24
 - Lyall 2021, p.1-26
 - Acock p.1-18
 - <https://stats.oarc.ucla.edu/stata/modules/an-overview-of-stata-syntax/>
 - In class:
 - Why is it called political science?
 - What is a theory and where do I find one?
 - Developing research questions
 - Installing Stata
 - Intro to data analysis (Stata)
 - Activity: Acock p.19, exercises 1-3
 - HOMEWORK for week 2:
 - “Noir Theory-Building, Hypotheses, and Causal Inference”
2. January 24th: Theory building and hypotheses; Units of analysis
 - READING
 - BDM and Fowler, ch. 4 (all)
 - Lyall 2021, p.26-35
 - Acock p. 21-22, 29-32, 40-43, 77-91
 - <https://stats.oarc.ucla.edu/stata/modules/descriptive-information-and-statistics/>
 - <https://stats.oarc.ucla.edu/stata/modules/collapsing-data-across-observations/>
 - <https://stats.oarc.ucla.edu/stata/modules/combining-data/>
 - In class:
 - Selecting cases
 - Units of analysis
 - Subsetting data (Stata)
 - HOMEWORK:
 - Schedule a meeting with Professor Nanes to discuss the Baby Research Paper
 - “Collapsing Data” (via Canvas before Class 3)

3. January 31st: Describing your data
 - READING:
 - <https://statisticsbyjim.com/basics/measures-central-tendency-mean-median-mode/>
 - <https://statisticsbyjim.com/basics/variability-range-interquartile-variance-standard-deviation/>
 - Acock p.93-96, 98-103, 112-116
 - <https://stats.oarc.ucla.edu/stata/modules/missing-values/>
 - In class:
 - Measures of central tendency: mean, median, and mode
 - Measures of uncertainty: variance, standard errors, confidence intervals
 - HOMEWORK:
 - Meet with Professor Nanes about the Baby Research Paper
 - “BRP – Theory and Hypotheses” (via Canvas before Class 4)

4. February 7th: Sampling and Distributions
 - READING:
 - BDM and Fowler, p.94-109, 113-118
 - In class
 - Uncertainty
 - Adding and multiplying probabilities
 - Dice activity
 - Normal distribution and hypothesis testing
 - HOMEWORK
 - “Sampling, Probability, and Distributions” (via Canvas before class 5)

5. February 14th: Bivariate relationships; Experiments
 - READING:
 - Acock p.123-129, 138-141, 156-174
 - Haim, Nanes, and Ravanilla, “Community Policing in the Philippines: Communication, Trust, and Service Provision”
 - In class:
 - T-tests, r^2 , correlations, and plots (Stata)
 - Null effects
 - Experiments
 - HOMEWORK:
 - “Hypothesis Testing” (via Canvas before Class 6)
 - “BRP - Data” (via Canvas before Class 6)

6. February 21st: Threats to inference
 - READING:
 - BDM and Fowler, p.159-187
 - Pape 2021, “Analysis of 377 Capitol Rioters”
 - In class:
 - Discussion of Pape article

- Threats to inference: omitted variables, directionality, missing data, measurement error, selection
 - HOMEWORK
 - “Imperfect Data” (via Canvas before Class 7)
7. February 28th: Case studies
- READING:
 - Lyall 2021, p.90-150. **You are not responsible for the historical details in the narrative. Rather, pay close attention to how the author structures the narrative to "code" variables and establish causality. Feel free to skim.*
 - In class:
 - Mixed methods analysis
 - HOMEWORK:
 - Study for midterm exam
8. March 6th: MIDTERM EXAM
- At home during scheduled class time
 - Material from topics 1 through 7
 - HOMEWORK
 - “BRP – Summary Statistics (Note due data on Canvas)

March 13th: NO CLASS / SPRING BREAK

9. March 20th: Intro to Regression
- READING (complete in the order listed):
 - BDM and Fowler, p.74-79
 - BDM and Fowler, p.193-197 (basics)
 - Acock p.193-201 (scatter plots and best fit lines)
 - <https://stats.oarc.ucla.edu/stata/modules/graph8/twoway/> (basic graphs)
 - BDM and Fowler, p.198-211 (control variables)
 - In class:
 - Notation
 - Ordinary least squares (OLS)
 - Interpreting results
 - HOMEWORK
 - Start thinking about the research design for your BRP (see next week’s assignment). Meet with Professor Nanes (recommended).
10. March 27th: Intro to Regression (continued)
- READING:
 - Acock p.275-281 (multivariate regression)
 - BDM and Fowler, p.211-213 (reading tables)
 - <https://stats.oarc.ucla.edu/stata/modules/labeling-data/>
 - In class:
 - Being realistic with errors: clustering, “robust”

- Making tables and presenting results (Stata)
 - HOMEWORK:
 - “Multivariate Regression” (via Canvas before Class 11)
 - “BRP – Research Design” (via Canvas before Class 11)
11. April 3rd: Visualizing regression results
- READING:
 - BDM and Fowler, p.306-315
 - <https://stats.oarc.ucla.edu/stata/modules/graph8/gen-opts/>
 - <https://www.princeton.edu/~otorres/Outreg2.pdf>
 - In class:
 - Making tables and graphs
12. April 10th: Applying Regression to Research
- READING:
 - Acock p.299-304, 308-315 (categorical variables and interactions)
 - BDM and Fowler p.113-134
 - In class:
 - Categorical independent variables
 - Interactions between variables
 - Plotting interactions
 - HOMEWORK:
 - “BRP – Preliminary Results”
13. April 17th: Literature Reviews
- READING:
 - Knopf 2006, "Doing a Literature Review."
 - In class:
 - Literature reviews
 - Workshop BRP with classmates
 - HOMEWORK:
 - Interactions
 - Work on BRP
14. April 24th: Time and Panels
- READING:
 - i. Vanden Eynde, Kuhn, and Moradi (2018), “Trickle-Down Ethnic Politics: Drunk and Absent in the Kenya Police Force.” *American Economic Journal: Economic Policy* 10(3).
 - ii. <https://stats.oarc.ucla.edu/stata/modules/using-dates-in-stata/>
 - In class:
 - i. Serial correlation: challenges to inference, design solutions
 - ii. Dates in Stata
 - HOMEWORK
 - i. Work on BRP

15. May 1st: Research ethics; Wrap-up

- READING:
 - Blair, Christia, and Weinstein, “Understanding Partnerships with the Police.” **This chapter discusses ethical issues related to the policing experiment you read about in Haim et al for week 5. Pay attention to the ethical challenges the researchers faced and how they responded to them.*
- In class:
 - Montana GOTV
 - “Do no harm”
 - IRB
 - Taking sides in politics

Final paper due May 11th at 9 am via Canvas