POLS 2000: Methods in Political Science

Spring 2023 – Monday 4:15-7:00, Tuesday and Thursday 12:45-2:00
Professor Matthew Nanes
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Office Hours: Monday 3:00-4:00

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.

The class is geared towards undergraduate students. You are *not* required to have any background in statistics or programming. In fact, the only math you will have to do is basic arithmetic, and you are welcome to use a calculator.

For the portions of the class which involve statistics, we will use Stata. There is no "best" software; Stata is one of several programs that is "good enough" for the tasks at hand. I will use examples from Stata in class, and you are expected to turn in assignments completed in Stata.

POLS 2000 has both lecture (3 credit hours) and lab (1 credit hour) components. You must register for and participate in both components with the same instructor.

Course Objectives

By the end of this course, you will:
- Apply the scientific method to questions about politics
- Identify the limitations of statistics presented in the media and communicate those limitations effectively to a non-specialist audience
- Evaluate the claims, strengths, and weaknesses of evidence in contemporary social science research
- Interpret and evaluate evidence presented in political science research

The lab portion of the class has additional objectives:
- Apply appropriate methodological tools to describe empirical evidence
- Use statistical methods appropriately to draw inferences about politics

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.

Programming is like a foreign language. It will look like complete gibberish at first. Be patient, trust that it gets easier, and if you don't understand an example, ASK!

Everyone learns differently. This course exposes you to several sets of voices on any given topic: the voice of your professor, that of the textbook author, and those of the supplementary reading authors. 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 simply means that you need the explanation in another voice. Some of you will appreciate verbose explanations, others will prefer formalized econometric equations, and the rest might like to see applications to real-world examples. 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 **two free absences**. 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 your based on the course goals listed above.
- 40% Homework. You will complete a number of assignments throughout the semester. These are individual assignments that require you to work alone. However, they are open-book, open-notes, open-internet, etc.

- 35% Research project assignments. At the beginning of the semester, I will survey all students in the class about the topics you are most interested in. I will then assign students to groups of four based on shared interests. Each group will choose a research question and complete a series of in-class and at-home assignments throughout the semester, culminating in a presentation and writeup of an original data analysis. This category includes a number of different assignments and activities which will each receive grades. Grades will be assigned to students individually; members of the same group may receive different grades if warranted.
- 25% Midterm Exam.

Additional information about grading:
- Since the "lab" and "lecture" sections of the course are fully interconnected, students will receive the same grade in both.
- There is no final exam.
- Unless otherwise specified, all assignments should be uploaded via 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 <u>automatic F in the class</u>.

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 who wish to request academic accommodations are encouraged to contact Disability Services to discuss accommodation requests and eligibility requirements. Please visit the Office of Disability Services website (http://www.slu.edu/life-at-slu/student-success-center/disability-services) for details. Please also contact me as soon as possible if you wish to discuss any of these options.

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.

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, the Reinert Center can provide one for you to use during 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

*Unless otherwise noted, all homework assignments should be turned in via Canvas.

Date	Topic	Before Class	In Class	Homework
Tuesday 1/17/23	Intro to science		Syllabus intro / intro to this class The scientific method	
Thursday 1/19/23	Intro to science	BDM and Fowler Ch.1 (all pages)	Theories; hypotheses; prediction vs. science Think-Pair-Share: theory and hypothesis	"HW1 Noir Theory-Building, Hypotheses, and Causal Inference" Due: Monday 12/23 8:00 am
Monday 1/23/23	Stata	Acock p.1-18	Install Stata Activity: Acock p.19, excs. 1-3	"HW2 Hypotheses About Politics" Due: Thursday 8:00 am
Tuesday 1/24/23	Stata	Acock p.21-22, 29-32, 40-43 https://stats.oarc.ucla.edu/stata/modules/an-overview-of-stata-syntax/	Intro to Stata. (Screens, menus, and log files. Creating a file structure.) Assignment to groups, presentation of potential research topics	
Thursday 1/26/23	Developing research questions	BDM and Fowler p.13-24	Lecture: Comparisons and relationships; from topic to question; defining variables Activity: "Generating Theories and Hypotheses." Choose topic and start working on theories	
Monday 1/30/23	Developing research questions	Acock p.77-91	Stata commands and do files Activity: "Generating Theories and Hypotheses"	

Tuesday 1/31/23	Case Selection	BDM and Fowler ch.4 (all pages) Pape 2021, "Analysis of 377 Capitol Rioters"	Activity: "Identifying Threats to Causal Inference" Lecture: Case selection and the importance of variation	
Thursday 2/2/23	Case Selection		Lecture: Units of analysis Activity: "Creating a Research Design" (15 minutes group meeting and 5 minutes presentation per group)	"HW3: Research Design" Due: Monday 8:00 am
Monday 2/6/23	Stata: Data management	https://stats.oarc.ucla.edu/stata/modules/collapsing-data-across-observations/ https://stats.oarc.ucla.edu/stata/modules/combining-data/	Demonstration and practice: sub-setting data, relational operators, logical operators, conditions, data merges	"HW4: Collapsing Data" Due: Thursday 8:00 am
Tuesday 2/7/23	Descriptive Inference	Acock p.93-96, 100-103, 112-116	Lecture and practice: Measures of central tendency	
Thursday 2/9/23	Descriptive Inference	Acock p.98-99 https://stats.oarc.ucla.edu/stata/modules/descriptive-information-and-statistics/	Lecture and practice: Measures of variance	
Monday 2/13/23	Descriptive Inference	https://stats.oarc.ucla.edu/stata/modules/missing-values/	Lecture and practice: Accuracy and precision Stata: Review of descriptive statistics; working w/ missing data	
Tuesday 2/14/23	Distributions and sampling	BDM and Fowler p.113-118	Lecture: Intro to Probability	

Thursday 2/16/23	Distributions and sampling	BDM and Fowler p.94-102, 102-109	Lecture and practice: Distributions; The Normal Distribution; Central Limit Theorem	
Monday 2//23	Distributions and sampling		Lecture: Sampling and Uncertainty Activity: "Dice Activity"	"HW5: Sampling and Distributions" - May work with classmates - Begin during lab Due: Thursday 8:00 am
Tuesday 2/21/23	Distributions and sampling		Practice: Uncertainty from sampling; bias and noise; margins of error and confidence intervals	"HW6: Evaluating Congressional Approval Survey" Due: Monday 8:00 am
Thursday 2/23/23	Field Research	Fearon, James and David Laitin, "Integrating Qualitative and Quantitative Methods." In Oxford Handbook of Political Methodology.	Lecture and discussion: Interviews, surveys, and other researcher observation	
Monday 2/27/23	Bivariate Relationships	Acock p.123-129, 138-141	Lecture and practice: chai squared, t-test, correlation	"HW7: Hypothesis Testing" Due: Thursday 8:00 am
Tuesday 2/28/23	Bivariate Relationships	Acock p.156-174	Practice with chai squared, t-test, and correlation Lecture: Omitted variable bias Activity: Acock p.190 exercises 1 and 8	
Thursday 3/2/23	Threats to Causal Inference	BDM and Fowler p.159-187	Lecture: OVB, reverse causality, selection bias Activity: Clusters identify potential omitted variables in their research projects	"HW8: Assessment of News Article" (is hugging dogs good for them?) Due: Monday 8:00 am
Monday 3/6/23	Study Session		Activity: Critique a research article	

			Group study for midterm exam	
Tuesday 3/7/23	Midterm Exam		Midterm Exam	
Thursday 3/9/23	Guest lecture			
Monday 3/13/23	SPRING BREAK		NO CLASS	
Tuesday 3/14/23	SPRING BREAK		NO CLASS	
Thursday 3/16/23	SPRING BREAK		NO CLASS	
Monday 3//23	Experiments	Haim, Nanes, and Ravanilla, "Community Policing in the Philippines: Communication, Trust, and Service Provision"	Review: Threats to inference Lecture: Experiments and randomization	"HW9: Imperfect Data" Due: Thursday 8:00 am
Tuesday 3/21/23	Regression: Visualizing bivariate relationships Best fit lines	BDM and Fowler p.74-79 (foundations) Acock p.193-201 (scatter plots and best fit lines) https://stats.oarc.ucla.edu/stata/modules/graph8/twoway/ (basic graphs)	Lecture: Notation; visualizing linear bivariate relationships	
Thursday 3/23/23	Regression: Controlling for confounds	BDM and Fowler p.193-211 (multivariate)	Lecture: Multivariate regression; controlling for confounds	

Monday 3/27/23	Regression: Applying multivariate regression	Acock p.275-281 https://stats.oarc.ucla.edu/stata/modules/graph8/gen-opts/	Lecture and practice: Interpreting regression results Coding lab: Regression in Stata (running models, interpreting output) Activity: Acock p.219-220 exercises 1, 2, 5, 7 (in clusters)	
Tuesday 3/28/23	Regression: Making regression tables	BDM and Fowler p.211-213 (reading tables) https://stats.oarc.ucla.edu/stata/modules/labeling-data/ https://www.princeton.edu/~otorres/Outreg2.pdf	Coding lab: Making regression tables	"HW10: Multivariate Regression" Due: Monday 8:00 am
Thursday 3/30/23	Regression: Categorical predictors Producing and interpreting results	Ackock p.299-304, 308-309 BDM and Fowler p.306-315 (visualizing results)	Group work: Practice interpreting results; understanding confidence intervals	
Monday 4/3/23	Regression: Application to own research		LA: Clusters work on translating their research design into a regression framework	
Tuesday 4/4/23	Intro to science	BDM and Fowler p.113-134	Accumulation of evidence, p-hacking, publication bias	

Thursday 4/6/23	EASTER BREAK		NO CLASS	
Monday 4/10/23	EASTER BREAK		NO CLASS	
Tuesday 4/11/23	Advanced regression	Ackock p.309-315	Lecture: Interactions and heterogeneous effects	
Thursday 4/13/23	Advanced Regression		Practice: Interactions and heterogeneous effects	
Monday 4/17/23	Advanced Regression		LA: Clusters identify likely heterogeneous effects in their research project	"HW11: Interactions" Due: Thursday 8:00 am
Tuesday 4/18/23	Intro to science	Knopf 2006, "Doing a Literature Review."	Practice: writing a literature review	
Thursday 4//23	Ethics		Lecture and discussion: Application of "do no harm;" IRB; taking sides in politics	
Monday 4/24/23	Time series		Lecture: Threats to inference in time series data	
Tuesday 4/25/23	Time series		Lecture and practice: Panels; Working with time series data	
Thursday 4/27/23	Time series	https://stats.oarc.ucla.edu/stata/modules/using-dates-in-stata/	Coding lab: Working with time and dates in Stata	"HW12: Time Series Analysis" Due: Monday 8:00 am
Monday 5/1/23	Group work		Activity: Clusters work on finalizing research projects	
Tuesday 5/2/23	Presentations		Student Presentations	
Thursday 5/4/23	Presentations		Student Presentations	
Monday 5/8/23	Wrap Up		Wrap Up	

Syllabus statements required by the office of the provost:

Academic Integrity

Academic integrity is honest, truthful and responsible conduct in all academic endeavors. The mission of Saint Louis University is "the pursuit of truth for the greater glory of God and for the service of humanity." Accordingly, all acts of falsehood demean and compromise the corporate endeavors of teaching, research, health care, and community service through which SLU fulfills its mission. The University strives to prepare students for lives of personal and professional integrity, and therefore regards all breaches of academic integrity as matters of serious concern. The full University-level Academic Integrity Policy can be found on the Provost's Office website at: https://www.slu.edu/provost/policies/academic-and-course/policy_academic-integrity_6-26-2015.pdf.

Additionally, each SLU College, School, and Center has its own academic integrity policies, available on their respective websites.

Disability Accommodations

Students with a documented disability who wish to request academic accommodations must formally register their disability with the University. Once successfully registered, students also must notify their course instructor that they wish to use their approved accommodations in the course.

Please contact the Center for Accessibility and Disability Resources (CADR) to schedule an appointment to discuss accommodation requests and eligibility requirements. Most students on the St. Louis campus will contact CADR, located in the Student Success Center and available by email at accessibility_disability@slu.edu or by phone at 314.977.3484. Once approved, information about a student's eligibility for academic accommodations will be shared with course instructors by email from CADR and within the instructor's official course roster. Students who do not have a documented disability but who think they may have one also are encouraged to contact to CADR. Confidentiality will be observed in all inquiries.

Title IX

Saint Louis University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. If you have encountered any form of sexual harassment, including sexual assault, stalking, domestic or dating violence, we encourage you to report this to the University. If you speak with a faculty member about an incident that involves a Title IX matter, that faculty member must notify SLU's Title IX Coordinator and share the basic facts of your experience. This is true even if you ask the faculty member not to disclose the incident. The Title IX Coordinator will then be available to assist you in understanding all of your options and in connecting you with all possible resources on and off campus.