POLS 5020: Research Methods

Fall 2020 – Wednesday 4:15-7:00 pm
Professor Matthew Nanes
matthew.nanes@slu.edu
Office Hours: By appointment (via Zoom or phone)

Course Description and Introduction
This course presents the fundamental tools that social science researchers use to ask and answer questions about the world. While the class is geared towards Political Science MA students, 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!).

The course teaches students to use the scientific method should to answer questions about politics and build knowledge about the way political actors operate and interact with one another. THIS IS NOT A MATH CLASS. 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. Similarly, THIS IS NOT A STATISTICS CLASS. Rather, I hope to explain how scientific methods of inquiry can be used for research on politics, present a basic toolkit that you can use to develop and answer questions you care about, and train you to use those tools productively.

This course will cover qualitative and quantitative methods. Many 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.

For the portions of the class which do 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. It is freely available on most campus computers at SLU. 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.

Programming is like a foreign language. It will to look like complete gibberish at first. Until you learn the basic syntax of the language, you won't be able to tell the difference between a variable and a command, which makes sample code unhelpful. Be patient, trust that it gets easier, and if you don't understand an example, ASK!

Everyone learns differently. This course exposes you to four sets of voices on any given topic: the voice of your professor, that of the textbook author, those of the supplementary reading authors, and those of 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 simply means that you need the explanation from 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

Attendance and active participation are critical if you are to get anything useful out of this class. Classroom discussions constitute a major portion of the course, and you cannot make up for missed sessions by doing the readings or reviewing notes. Given that we meet only once per week, you are allowed 1 unexcused absence with no penalty. Additional absences will be excused only with documentation of a genuine need that is beyond your control. Each unexcused absence will result in a 5 point penalty on your final course grade.

Supplementary Policies for COVID-19 / Fall 2020

- All students must wear a mask that covers their mouth and nose during this class. Your mask should already be on before you enter the building. It must remain on throughout the class. If you need to take it off, please leave the classroom.
- I will be widely available throughout the semester by phone or zoom. Zoom is particularly useful because we can screen share to work through Stata together. I will not hold in-person office hours. Email me to set up a meeting.
- Students who wish to take this class online should register accordingly with the university.
- For students registered to take the class face-to-face: if at any point you decide that you are uncomfortable attending class in person, you may elect to attend virtually. You may make this decision on a week-by-week basis. Please apprise me of your intentions as soon as possible. The more advance notice I have, the more I'll be able to help you.

- Virtual attendance does NOT count as an absence.

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.

- 15% Active participation. Needless to say, you cannot actively participate if you (a) are not present, or (b) have not done the assigned reading and assignments. Feel free to check in with me beginning in week 5 for an update on how you are doing.
- 35% Homework Assignments. These are listed in the course outline below and available on Blackboard.
- 25% Midterm Exam. Take at home during the scheduled class time on October 14.
- 25% Baby Research Paper. Details available on Blackboard.

Unless otherwise specified, all assignments should be uploaded via Blackboard

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 AND a referral to the Associate Dean's office.

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:

- Kellstedt, Paul M. and Guy D. Whitten, *The Fundamentals of Political Science Research.* Cambridge University Press. The current version is the 3rd edition. If you have an older version I will do my best to accommodate, though there may be times when you have to compare notes with a classmate.

- King, Gary, Robert Keohane, and Sidney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research.*

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

If…

1. You used Kellstedt and Whitten in a previous course, or
2. You have a background in economics and prefer to have material displayed in econometric notation, or
3. You prefer more technical explanations (though still aimed at an introductory audience),

…then I **recommend** that you supplement Kellstedt and Whitten with the following text. I've noted the corresponding replacement chapters in the outline where applicable.

- Wooldridge, Jeffrey M. *Introductory Econometrics: A Modern Approach.* Cengage Learning.

Finally, I **recommend** that you have a reference guide to working with Stata. All the information will be provided in class and there are many free tutorials available online, but you can save yourself a lot of googling by having everything in one place.

- Pollock, Philip H. *A Stata Companion to Political Analysis,* 3rd addition. CQ Press. I do not recommend using an older version.

Course Outline

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

*Reading assignments are listed for the day on which we will discuss them. For example, King et al Chapter 1 and K&W Chapter 1 should ideally be read before our first class.

1. "Why is it called political science?"
    - Philosophy of science
    - What is a theory and where do I find one?
    - Designing research questions
    - STATA: Introduction, the data editor, do files (`help, preserve, restore`)
    - READING:
        - King et al Chapter 1: The *Science* in Social Science
        - K&W Chapter 1: The Scientific Study of Politics (skim)
        - Waldman, Chapman, and Robertson (2018), "Palantir Knows Everything About You." *Bloomberg Businessweek.*
    - HOMEWORK: "Theory-Building, Hypotheses, and Causal Inference" on Scandinavian Crime Fiction article (details on Blackboard, via Blackboard before Class 2)

2. Theory building and hypotheses
    - Predicting relationships
    - The absence of evidence versus evidence of absence

- Selecting cases
- STATA: Data management (`gen, drop, egen, collapse`)
- READING
  - K&W Chapter 2: The Art of Theory Building
  - K&W Chapter 3: Evaluating Causal Relationships (sub Wooldridge 1)
- HOMEWORK: "Collapsing Data" (via Blackboard before Class 3)

3. Describing your data
   - Measures of central tendency: mean, median, and mode
   - Measures of uncertainty: variance, standard errors, confidence intervals
   - Issues of measurement: Accuracy and precision
   - STATA: Summary stats (`sum, tab, hist`)
   - READING:
     - K&W Chapter 5: Measuring Concepts of Interest (skim)
     - King et al Chapter 2: Descriptive Inference
     - K&W Chapter 6: Getting to Know Your Data (sub Wooldridge B3)
   - HOMEWORK:
     - Email Professor Nanes to schedule a virtual meeting to discuss your topic
     - "BRP – Hypotheses" Two paragraphs explaining your theory and specifying the hypotheses you will test (via Blackboard before Class 4)

4. Sampling and Distributions
   - "The Average Person"
   - Normal distribution and the Central Limit Theorem
   - Sources of uncertainty: sampling and measurement
   - Sample size and error
   - READING:
     - K&W Chapter 7: Probability and Statistical Inference (sub Wooldridge B1-B2, B5, C1)
     - Miller, Sam. 2020. "They secretly replaced Yankee Stadium ... and other lies we can prove using real stats." *ESPN.com* (post on Blackboard)
   - HOMEWORK
     - "Sampling, Probability, and Description" (via Blackboard before class 5)
     - "BRP - Data": Two to three paragraphs explaining the data you will use, where it comes from, and how the variables of interest map on to the constructs in your hypotheses. Send me the data along with this assignment. (via Blackboard before Class 5)

5. Relationships and hypothesis testing with "perfect" data
   - r^2
   - t tests, chi square
   - STATA: `cor, ttest, by, chi2`
   - READING:
     - K&W Chapter 8: Bivariate Hypothesis Testing (sub Wooldridge C6)
   - HOMEWORK: "Hypothesis Testing" (via Blackboard before Class 6)

6. Working with imperfect qualitative and quantitative data
    - Threats to inference: omitted variables, directionality, missing data, measurement error, selection
    - READING:
        - King et al Chapter 5 "Understanding What to Avoid"
        - Pape (2003), "The Strategic Logic of Suicide Terrorism." *American Political Science Review*. 97(3). (skim)
        - Ashworth, Meirowitz, and Ramsay (2008), "Design, Inference, and the Strategic Logic of Suicide Terrorism." *American Political Science Review* 102(2).
        - Narang and Leveck (2020), "Stylized Facts and Comparative Statics in (Social) Science Inquiry." *International Studies Quarterly*
    - HOMEWORK
        - "Imperfect Data" (via Blackboard before Class 7)
        - "BRP – Summary Stats": Table of summary statistics (mean, median, standard deviation, and number of observations) for each of your key variables

7. Linear Multivariate Regression I
    - It's all Greek to Me: Notation in regression
    - STATA: `reg`
    - READING:
        - K&W Chapter 9: Two-Variable Regression Models (sub Wooldridge 2)
        - K&W Chapter 10: Multiple Regression – The Basics (sub Wooldridge 3-4)

8. MIDTERM EXAM (October 14th)
    - At home during scheduled class time
    - Material from topics 1 through 6

9. Linear Multivariate Regression II
    - READING:
        - Meier, Wrinkle, and Polinard (1999), "Representative Bureaucracy and Distributional Equity: Addressing the Hard Question." *Journal of Politics* 61(4).
        - Nielsen and Wolf (2001), "Representative Bureaucracy and Harder Questions: A Response to Meier, Wrinkle, and Polinard." *Journal of Politics* 63(2).
    - HOMEWORK
        - "Multivariate Regression" (via Blackboard before Class 10)
        - "BRP – Research Design": Specify the tools you will use to analyze your data, either in words or by writing out the model specification in econometric notation (your choice). If you are conducting a quantitative analysis, specify the stata code you intend to use. (via Blackboard before Class 10)

10. Torturing your data (Linear Multivariate Regression III)
    - Interpreting OLS results
    - Transformations
        - Logs and powers
        - Standardization
    - Interaction terms
    - STATA: `log, ln,` and other basic functions
    - READING:
        - Wooldridge A4 (via Blackboard)
        - Whichever of these work best for you:
            - https://stattrek.com/regression/linear-transformation.aspx
            - http://fmwww.bc.edu/repec/bocode/t/transint.html
            - https://www.coursera.org/lecture/linear-regression-business-statistics/transformation-of-variables-in-a-regression-improving-linearity-FOYXk
        - K&W Chapter 11

11. Time series and panels
    - Trends and lags
    - Autocorrelation
    - Fixed effects
    - STATA: `tsset, L.(var), xtset, fe`
    - READING:
        - K&W pages 282-295 (sub Wooldridge 10)
        - 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).
    - HOMEWORK: "Interactions, Time Series, and Panels" (via Blackboard before class 12)

12. Non-linear multivariate regression
    - Menu of common models and their applications
    - Being realistic with errors: clustering, "robust"
    - STATA: `logit, probit, nbreg, robust, cluster, i.(var)`
    - READING:
        i. K&W pages 273-282 (skim)
    - HOMEWORK / "BRP – Preliminary Results": Report preliminary findings from your analysis, most likely in the form of a regression table with a couple of paragraphs of explanation. Explain (a) what you did, and (b) the conclusions you can draw from your results. State explicitly how your results relate to your hypotheses. (via Blackboard before class 13)

~~13.~~ **Fall 2020: Skip this week** ~~Qualitative hypothesis testing~~
    - ~~Guest lecture~~
    - ~~READING:~~

- ~~Fearon, James and David Laitin, "Integrating Qualitative and Quantitative Methods." In *Oxford Handbook of Political Methodology*.~~

14. Intro to field research
    - Survey design and sampling
    - Interviews, focus groups
    - Reading:
        - Fearon, James and David Laitin, "Integrating Qualitative and Quantitative Methods." In *Oxford Handbook of Political Methodology*. (Blackboard)
        - Choose 1 of 2:
            - [Qualitative Design] Shesterinina, Anastasia (2016), "Collective Threat Framing and Mobilization in Civil War." *American Political Science Review* 110:3.
            - [Quantitative Design] Fair, Shapiro, and Malhotra (2012), "Faith or Doctrine? Religion and Support for Political Violence in Pakistan." *Public Opinion Quarterly*

15. Back to basics: Experiments
    - The power of randomization
    - Lab, field, survey, and "natural" experiments
    - READING:
        - K&W pages 77-92
        - Banerjee et al (2012), "Can Institutions be Reformed from Within? Evidence from a Randomized Experiment with the Rajasthan Police." https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2034087
        - Yeh et al (2018), "Parachute use to prevent death and major trauma when jumping from aircraft: randomized controlled trial." https://doi.org/10.1136/bmj.k5094

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 Disability Services to schedule an appointment to discuss accommodation requests and eligibility requirements. Most students on the St. Louis campus will contact Disability Services, located in the Student Success Center and available by email at Disability_services@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 Disability Services 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 Disability Services. 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.

Anna Kratky is the Title IX Coordinator at Saint Louis University (DuBourg Hall, room 36; anna.kratky@slu.edu; 314-977-3886). If you wish to speak with a confidential source, you may contact the counselors at the University Counseling Center at 314-977-TALK or make an anonymous report through SLU's Integrity Hotline by calling 1-877-525-5669 or online at https://www.lighthouse-services.com/_StandardCustomURL/LHILandingPage.asp. To view SLU's policies, and for resources, please visit the following web addresses: https://www.slu.edu/here4you and https://www.slu.edu/general-counsel.

IMPORTANT UPDATE: SLU's Title IX Policy (formerly called the Sexual Misconduct Policy) has been significantly revised to adhere to a new federal law governing Title IX that was released on May 6, 2020. Please take a moment to review the new policy and information on the following web address: https://www.slu.edu/here4you. Please contact the Anna Kratky, the Title IX Coordinator, with any questions or concerns.

Mandatory Statement on Face Masks (Fall 2020)

The University's *Interim Policy on Face Masks* governs all students, faculty, staff, and campus visitors in all University-owned, leased, or operated facilities. All persons physically present in any such University facility associated with this course shall comply fully with this policy at all times. Masks must be worn before entry to all such University facilities (as well as outdoors on all University property when six feet of distance is unpredictable or cannot be maintained).

Saint Louis University is committed to maintaining an inclusive and accessible environment. Individuals who are unable to wear a face mask due to medical reasons should contact the Office of Disability Services or Human Resources to initiate the accommodation process identified in the University's ADA Policy. Inquires or concerns may also be directed to the Office of Institutional Equity and Diversity. Notification to instructors of SLU-approved ADA accommodations should be made in writing prior to the first class session in any term (or as soon thereafter as possible).

As the instructor of this course, I shall comply fully with SLU's policy and all related ADA regulations.

Students who attempt to enter a classroom without wearing masks will be asked by the instructor to wear masks prior to entry. Students who remove their masks at any time during a class session will be asked by the instructor to resume wearing their masks.

Note: Accordingly, no consumption of any food will be allowed in class.

Students who do not comply with a request by a SLU instructor to wear a mask in accordance with the University's *Interim Policy on Face Masks* may be subject to disciplinary actions per the rules, regulations, and policies of Saint

Louis University, including but not limited to the *Student Handbook*. Non-compliance with this policy may result in disciplinary action, up to and including any of the following:

- dismissal from the course(s)
- removal from campus housing (if applicable)
- dismissal from the University

To immediately protect the health and well-being of all students, instructors, and staff, instructors reserve the right to cancel or terminate any class session at which any student fails to comply with faculty or staff request to wear a mask in accordance with University policy.

Students are strongly encouraged to identify to their instructor any student or instructor not in compliance. Non-compliance may be anonymously reported via the SLU Integrity Hotline at 1-877-525-5669 (or confidentially via the Integrity Hotline's website at http://www.lighthouse-services.com/slu.

Attendance

The health and well-being of SLU's students, staff, and faculty are critical concerns. Accordingly, the following University policy statements on in-person class attendance are designed to preserve and advance the collective health and well-being of our institutional constituencies.

1. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) shall absent themselves from any in-person class attendance or in-person participation in any class-related activity until they have been evaluated by a qualified medical official. Students should contact the University Student Health Center for immediate assistance.

2. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) but who feel well enough to a) attend the course synchronously in an online class session or b) participate in asynchronous online class activities, are expected to do so. Those who do not feel well enough to do so should absent themselves accordingly.

3. Students (whether exhibiting any of potential COVID symptoms or not, and regardless of how they feel) who are under either an isolation or quarantine directive issued by a qualified health official must absent themselves from all in-person course activity per the stipulations of the isolation or quarantine directive. They are expected to participate in synchronous or asynchronous online class activities as they feel able to do so, or absent themselves accordingly.

4. Students are responsible for notifying each instructor of an absence as far in advance as possible; when advance notification is not possible, students are responsible for notifying each instructor as soon after the absence as possible.

5. As a temporary amendment to the current University Attendance Policy, all absences due to illness or an isolation/quarantine directive issued by a qualified health official shall be considered "Authorized" absences (effective August 2020 through May 2021).

Distance Education Etiquette

Your actions in distance education contexts are just as important as in on-ground, face-to-face educational contexts – and sometimes require additional attention and commitment, as some distance education technologies might be less familiar to us. Accordingly, all students are expected to follow the guidelines below:

Synchronous Video Contexts (Zoom, etc.)

1. Mute your microphone when you are not speaking. Remember to "un-mute" yourself just prior to speaking. Identify yourself when you begin speaking.

2. Expect a few seconds of delay in getting a response from the instructor or another class member to a question; wait before repeating your question or assuming it was not heard.

3. If possible, position your camera such that your video feed does not capture too much of your surroundings or other activity/sound from your home/location. Be conscious of posters, art, or other surroundings that others might find offensive or inappropriate for an educational context.

4. Use the "Raise Hand" and "Chat" (or similar) features of your video-conferencing tool. This limits verbal interruptions and the confusion generated when multiple people try to speak at once.

5. Just as in an on-ground, face-to-face class, limit side conversations, multi-tasking (on your computer or otherwise), and use of your cellphone.

6. Temporarily turn off your video feed and mute your microphone when engaged in any non-class conversation or activity.

7. Respect and be attentive to the diversity of your classmates and instructor. Before communicating, consider your message in the context of the class' diversity in race, ethnicity, religion, disabilities, gender, sexual orientation, age, social class, marital status, geography, etc. Consider the diversity you can see or know – as well as that you cannot.

8. Remember that video-based class sessions (including chat transcripts) may be recorded and retrieved for later viewing.

Non-Video & Asynchronous Contexts (Blackboard, Canvas, Online Chats, Discussion Boards, etc.)

1. When using the "Chat" or "Discussion Board" (or similar) features of your course management system, remember that your course-related communications to the instructor or other students should be considered "professional" (they are not like texts to your friends). Remember that course context and all related written work – including chat and discussion board transcripts – can be recorded and retrieved.

2. Be cautious when using humor or sarcasm; without the context of facial expressions or other body language, your tone or intent could be missed or misunderstood by others.

3. Respect and be attentive to the diversity of your classmates and instructor. Before communicating, consider your message in the context of the class' diversity in race, ethnicity, religion, disabilities, gender, sexual orientation, age, social class, marital status, geography, etc. Consider the diversity you can see or know – as well as that you cannot.

4. Respect others' time and life circumstances, which often don't allow for an immediate response to a question or comment.