

# POL 3085: Quantitative Analysis in Political Science

University of Minnesota  
Summer 2023

Lecture: Tuesday and Thursday, 9:00am-12:00pm ([Zoom](#))

Instructor: Emily Kurtz (she/her)  
Email: [kurtz217@umn.edu](mailto:kurtz217@umn.edu)  
Office: 1214 Social Science Building  
Office hours: Mondays and Wednesdays, 11:00-12:00pm and by appointment  
Office hours location: [Zoom](#)

## Overview

This class has two goals. You will:

- Learn about how to do quantitative political science research.
- Conduct your own political science research project.

Each class period is geared toward helping you understand and complete part of your final research project.

## Instructional Time

- This is a four-credit class condensed down into eight weeks, so we will be busy for those eight weeks. You are expected to attend six hours of class per week. In addition to time spent in class, you should budget about 15 hours per week on average to preparing for class, finishing up lab assignments, taking quizzes, and working on your paper chunks and research project.
- In the first half of your semester, your preparation for class will be focused mostly on reading and pre-class assignments that we will use in class to help explore the concepts. In the second half of the semester, there will be significantly less reading (often none), and you will be expected to spend the time you would have spent on the reading working on your project.
- Each assignment is a “chunk” of the final paper. If you keep up with the work throughout the semester, at the end of the semester writing your final paper should only require editing the work you’ve done into one coherent paper. (Note: you do need to edit it into a coherent paper. You can’t just submit six disconnected, unedited assignments in one document.)

## Canvas

All course materials will be on the class’s Canvas page. This includes the course schedule, all assigned readings, all assignments, and everything else. Even though some class components will not directly be through Canvas (e.g., some materials will be administered through Google Forms, Sheets, or Docs), the links to those will be in the appropriate class’s module

on Canvas. Each class period will have its own module that contains all relevant material for the class.

## Modality and Contingency Plans

This class is solely online. Accessibility is important, as is, in my opinion, your ability to do summer things in summer (i.e. be off campus for trips, to spend time with friends or family, to gain work experience/make money, etc.) These reasons and more are why I chose this modality, and while I considered hybrid modality, focusing exclusively on online will allow us to have a better online experience for all. This does come with some challenges. If technology hurdles arise that impact my ability to get online, I will communicate that to you as quickly as possible. Ideally this will result in only a late start, but if the whole class period is impacted, the class will be "made up" asynchronously (i.e. I will record the lecture for that day and you will watch it on your own time). If technology impedes your logging on for the day, no problem, just email me and we will make a plan.

## Technology

In this class, you will need:

- A computer, internet connection, speakers, video, and microphone that will allow you to participate in class activities over Zoom.
- For information about internet access off campus, please see here: <https://it.umn.edu/working-learning-campus/get-internet-access-campus>

## Assessment

Grading for this class will be based on six items:

1. **Lecture quizzes.** There will be seven quizzes throughout the semester. You can take each quiz as many times as you want and only your highest grade is recorded. Quizzes are not timed. Each quiz is worth 5 points.
2. **Lab assignments.** Lab assignments are intended to be completed entirely within the lab section, are graded satisfactory/unsatisfactory, and are worth 5 points.
3. **Lab quizzes.** There will be nine lab quizzes. You can take each quiz as many times as you want and only your highest grade is recorded. Quizzes are not timed. Each lab quiz is worth 5 points.
4. **Paper chunks.** You will have to complete and submit five "paper chunks" throughout the semester. Each chunk contains the information necessary to draft a section of your final paper. You should consider these *drafts* – they are not expected to be perfect, and should reflect your best effort at completing the task at the time that it is assigned. You will receive feedback on each one that you will integrate into your final paper. Each paper chunk is worth fifteen points.

5. **Final presentation.** During the second-to-last class, you will present your project to the class, both to practice communicating about research and to get feedback for your final paper. More detailed information about these presentations will be provided later on. The final presentation is worth 25 points.
6. **Final paper.** For your final paper, you will edit those paper chunks with the feedback I have given you, and you will incorporate them into one of the following (your choice): a paper, a creative presentation of the research (e.g., podcast, graphic novel, YouTube video), or a policy memo. These should contain exactly the same material (everything from your paper chunks, plus a conclusion) and differ only in form. The expectations for what content is included are the same. The final paper is worth 75 points.

Assignment	Points	How Many	Total
Lecture quizzes	7	5	35
Lab assignments	5	9	45
Lab quizzes	5	9	45
Paper chunks	15	5	75
Presentation	25	1	25
Paper	75	1	75
			300

Table 1: Summary of assignments and points.

Letter	Percent	Letter	Percent
A	93-100	C	73-76.9
A-	90-92.9	C-	70-72.9
B+	87-89.9	D+	67-69.9
B	83-86.9	D	63-66.9
B-	80-82.9	F	0-62.9
C+	77-79.9		

Table 2: Grade scale.

## Communication and Office Hours

I will send out all course announcements and communications over Canvas announcements.

The best way to reach me with questions is email. Please include the course title (POL 3085) in the subject of your email, along with some indication about the email's contents (e.g., "POL 3085: Question about Lecture"). I receive a lot of email and this helps me to prioritize your emails because any email with POL 3085 in the subject/body is automatically tagged with a label telling me it's a student email. Emails with vague titles ("help!", "problems") often get caught up in the spam filter.

I will respond to all emails within 24 hours (excluding weekends, so for example a 2pm email sent on Friday will be responded to, at latest, by 2pm on Monday). If you do not hear back within that time, feel free to send another email — although it is rare, sometimes emails do get lost. Please do not message me through the Canvas messaging platform.

I will be holding regular office hours. You are encouraged to come to office hours to talk to me about the material, your project, or anything else. Often times, it is easier for me to help you in office hours than it is over email.

### **Attendance Policy**

Attending class and paying attention (so: not logging into Zoom and falling asleep/walking away) are really important for your ability to keep up with the material and not fall behind on your paper. Students who attend and engage in class on a regular basis do better on average than students that do not. That said, if you are sick and would benefit from sleeping in to heal faster, please do so. I will not be taking attendance, though if I notice a pattern of absences and you have not communicated with me, I will check in. This is not as a punishment but instead as a, well, check in to see what's causing the absences and how we can fight through those causes.

### **Extensions and Late Work**

Students can request an extension for any assignment by filling out an extension request form. All extensions are granted unless the student is told otherwise. (I do not update the deadlines on Canvas in real time.) Students must name a new due date and are then held to that due date. Each assignment may receive only one extension and the extension may not be for more than 3 days without instructor approval. This is ensure students don't fall behind. All assignments will close by their due date/time. I can and will reopen them on a case-by-case basis, but only after students have communicated with me and we have made a plan for you to not fall behind.

Paper chunks turned in late (whether according to the original due date or an extended due date) will lose one point for each calendar day they are turned in after the due date (whether original or extended). This means that if an assignment is due on Monday, the student will lose one point if they turn it in on Tuesday, two points on Wednesday, and so forth. In the case of extenuating and unexpected circumstances – extended personal or family illness, death in the family, etc. – students should communicate with me as soon as they are able so that we can discuss further extensions. Please note that I do not require details or evidence of these circumstances and you are not required to describe them to me.

Students are encouraged to plan ahead of time to assure their assignments are done on time, because each assignment builds on the previous assignment, and late assignments can easily pile up.

### **Anxiety, Panic, and Withdrawing/Disappearing**

While infrequent, it is not uncommon for a student to fall behind on their work some reason, panic, conclude they will fail and/or cannot get a good grade, and either withdraw or disappear entirely without withdrawing. Even the worst of mistakes within a semester usually doesn't mean there's no way to pass the class. If at any point in the semester you end up feeling like this, please email me or come talk to me in office hours and we can assess how you are doing and try to come up with a plan to make the rest of your semester successful and manageable. You do not have to tell me why you fell behind and you don't

need to defend yourself. I am here to help you, not to judge you. I want all of you to succeed, but I can't help you if you withdraw and/or disappear without talking to me.

(That is not to say you should not withdraw. But if you think you need to withdraw, please talk to me first to see if that's really true. I won't try to convince you either way, but I can help you make a more accurate assessment of how you're doing in the class. You definitely, definitely should not disappear without withdrawing if it can possibly be helped. That is never a good idea.)

### **Grade Disputes**

Any student wishing to dispute a grade should submit a one-page memo, typed or handwritten, explaining, clearly and concisely, why points were taken off, why the student believes the points should not have been deducted, and how many additional points the student believes they should receive. All regrades can result in one of three outcomes: a grade decrease, the grade staying the same, or a grade increase.

### **Grade Changes**

No grades will be changed after final grades are submitted to the registrar.

### **Textbooks**

This class uses no textbooks. All readings will be on Canvas.

### **Accommodations (Disability and Otherwise)**

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact Disability Resource Center at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with Disability Resource Center and have a current letter requesting reasonable accommodations, please contact me as early in the semester as possible to discuss how the accommodations will be applied in the course. If you are not registered with the Disability Resource Center, but you still have access needs or accommodations (regardless of reason), please let me know.

A few blanket accommodations within this class:

- All slides should be readable by screen reader, meaning that all images should have an alternative text that can be read. If this doesn't work or you think a slide is missing the alternative texts, it is probably an oversight on my part, and I will appreciate it if you can please let me know.
- I offer automatic extensions on deadlines. See [Late Work and Extensions](#).

Additionally, if there is anything I can do or provide to you to make the class more accessible, please ask.

For more information, please see the Disability Resource Center website, <https://diversity.umn.edu/disability/>.

## **Mental Health and Stress Management**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

I understand personally the ways that depression and anxiety can create problems for students completing coursework. If you feel like you are struggling in class because of mental health reasons, please get in touch with me. You do not need to provide any details or explain yourself, but I am typically able to work with students if these issues become problems.

## **Other Policies**

### **Grading and Transcripts**

For information about translation from letter grade to points on transcript, please refer to: <http://policy.umn.edu/education/gradingtranscripts>.

### **Student Conduct Code**

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: Student Conduct Code. To review the Student Conduct Code, please see: [http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student\\_Conduct\\_Code.pdf](http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf).

### **Scholastic Dishonesty**

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying

data, research procedures, or data analysis. (Student Conduct Code: [http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student\\_Conduct\\_Code.pdf](http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf)) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <http://policy.umn.edu/education/instructorresp>.

The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <http://www1.umn.edu/oscai/integrity/student/index.html>. If you have additional questions, please clarify with Prof. Sumner. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

### **Department of Political Science Policy on Use of AI**

Unless specifically permitted by the instructor, any student who submits work generated by ChatGPT and other artificial intelligence (AI) software as their own work will be considered to be in violation of the University's scholastic dishonesty policy. As stipulated by [University policy](#), instructors are obligated to report all incidents of dishonesty to the Office of Community Standards.

### **Appropriate Student Use of Class Notes and Course Materials**

You may not distribute course notes, course videos, or other course materials without the explicit written approval of the professor. For additional information, please see: <http://policy.umn.edu/education/studentresp>.

### **Sexual Harassment**

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: <http://regents.umn.edu/sites/regents.umn.edu/files/policies/SexHarassment.pdf>.

### **Equity, Diversity, Equal Opportunity, and Affirmative Action**

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: [http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity\\_Diversity\\_EO\\_AA.pdf](http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf).

## Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.<sup>1</sup> When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies.

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

## Incompletes

If a student wishes to take an incomplete in the class and complete the material after the semester is over, please contact the instructor to discuss further. The instructor may set dates and conditions for makeup work using a “Completion of Incomplete Work” contract form. All work must be completed no later than one calendar year after the official last day of the class.

## Class Schedule

**Note:** All readings listed under a date should be completed *before class that date* unless otherwise specified.

Tuesday, June 6: The Course, Expectations, and Defeating Math and Programming Phobia

- *After class:* Review the syllabus
- *After class:* <https://www.codecademy.com/articles/what-is-programming>
- *Optional, after class:* Popova, Maria. ”Fixed vs. Growth: The Two Basic Mindsets That Shape Our Lives” <https://www.brainpickings.org/2014/01/29/carol-dweck-mindset/>

**Lab:** Setting up and getting comfortable with R

## Puzzles and Frameworks

Thursday, June 8: What is political science? Anatomy of a research paper. Research questions

---

<sup>1</sup>Language adapted from the American Association of University Professors “Joint Statement on Rights and Freedoms of Students”.



Pick ONE article to read and outline it. Pick another article to read and see if it follows a similar outline. How are they the same? How are they different? What are the research questions? Are they important? Do they discuss the stakes, meaning does it matter if we know the answer to the question?

- Bell, Mark S. "Nuclear opportunism: A theory of how states use nuclear weapons in international politics." *Journal of Strategic Studies* 42, no. 1 (2019): 3-28.
- Wilson, Matthew Charles, and Josef Woldense. "Contested or established? A comparison of legislative powers across regimes." *Democratization* 26, no. 4 (2019): 585-605.
- Wu, Nicole. "Misattributed blame? Attitudes toward globalization in the age of automation." *Political Science Research and Methods* 10 (2022), 470-487.

**Lab:** Using R for calculations and setting working directories

Tuesday, June 13: Building a theory

- Chapter 4. Bergstrom, Carl T., and Jevin Darwin West. *Calling bullshit: the art of skepticism in a data-driven world*. Random House Trade Paperbacks, 2021.
- Re-read the two articles you read for last class, focusing solely on their theory sections. How does what you read line up with the Bergstrom and West chapter?

**Lab:** Installing packages and loading in data

## Ways of Knowing Things

Thursday, June 15: Experiments and Observational (Small- and Large-N) Designs

- Do the pre-class activities on Canvas.
- Skim, with a focus on the experiment: Sumner, Jane. *The Cost of Doing Politics*. Chapter 4.

**Lab:** None

## Thinking about and Collecting Data

Tuesday, June 20: Concepts and Measurement

- Bittner, Amanda, and Elizabeth Goodyear-Grant. "Sex isn't gender: Reforming concepts and measurements in the study of public opinion." *Political Behavior* 39, no. 4 (2017): 1019-1041.
- You Are Not So Smart - 257 - What Do You Mean? - Celeste Kidd - <https://radiopublic.com/you-are-not-so-smart-e6LRQG/ep/s!d1ddf>
- **Lab:** Reading in external data and finding help

Thursday, June 22: What is/can be data?

- Do the pre-class activity on Canvas.
- **Lab:** Recoding variables and working with data frames

Tuesday, June 27: Writing survey questions and Qualtrics

- <https://it.umn.edu/services-technologies/qualtrics>
- **Lab:** Catch-up and synthesis

### **Inference and Analyzing Data**

Thursday, June 29: Sampling distributions, significance and hypothesis testing

- **Lab:** Summary statistics

Tuesday, July 4: NO CLASS - HOLIDAY

Thursday, July 6: Describing data

- **Lab:** Data visualization

Tuesday, July 11: Linear Regression

- **Lab:** Linear regression models and graphs

Thursday, July 13: Confounding and Multivariate Regression

- **Lab:** Multivariate linear regression

Thursday, July 18: Multivariate Regression

- **Lab:** Working with your data

Tuesday, July 20: Model Fit and Work Day

### **Preparation and Presentation**

Tuesday, July 25: Presentations

Thursday, July 27: Wrap Up and Work Day