POLS 209: Introduction to Political Science Research
Fall 2024

Lectures	
Date & Time	Mon. & Wed. 3-3:50 PM
Room	BLOC 102

Lab Sessions	
Section 900	Friday 2:25-3:15 PM
Section 901	Friday 9:45-10:35 AM
Section 902	Friday 10:55-11:45 AM
Section 903	Friday 12:05-12:55 PM
Section 905	Friday 1:15-2:05 PM
Section 907	Friday 9:45-10:35 AM
Section 908	Friday 10:55-11:45 AM
Section 910	Friday 2:25-3:15 PM
Section 911	Friday 12:05-12:55 PM
Section 912	Friday 1:15-2:05 PM

Professor	Ilayda B. Onder, Assistant Professor of Political Science
Office Hours	Mon. & Wed. 4:30-5:30 PM
Office	Allen 3069
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	Teaching Assistant	**Office Hours**	**Office**	**Email**
Sec. 900 & 912	Erik Chi	Fri 9-10 AM	Allen 3045	erikchi@tamu.edu
Sec. 910 & 911	Hongbi Choi	Fri 1:10-2:10 PM	Allen 3045	choi112@tamu.edu
Sec. 901 & 908	Leonel Diaz Madrid	Fri 12-1 PM	Allen 3045	leodiaz@tamu.edu
Sec. 902 & 907	Reshikesav Rajan	Tue 12-1 PM	Allen 3105	rrajan@tamu.edu
Sec. 903 & 905	Tianyi Yang	Fri 2:30-3:30 PM	Allen 3105	tianyi0417@tamu.edu

Course Description

"Wait hang on. I'm studying politics... why do I need to know about scientific research and quantitative analysis?" "I just want to know why people vote or why some countries experience civil wars but not others or whether trade increases inequality." The reason why you need to know about quantitative analysis is that anything that we can observe can be turned into data and data can be analyzed quantitatively to help us learn about the world of politics. Hence quantitative data and statistics have become invaluable tools for social scientists.

The primary goal of this course is to teach you how to turn things into data, analyze them using statistics, and make inferences using statistical analysis about real-world issues. The syllabus lists some more specific course objectives below, but the "big picture" purpose of this course is to give you the foundational quantitative tools you may need to answer questions about the political and social scientific phenomena you are interested in.

We will spend part of the course discussing how to generate hypotheses and design research in a way that allows you to answer research questions using quantitative data. We will learn about various statistical techniques for analyzing data and testing hypotheses. Yes, that means we will do some math. And yes, that means we will use computer software (R and RStudio specifically) to visualize and analyze data as well. Throughout the semester, you will also design and carry out an independent research project to test your own theory about a topic of your own choosing. My goal is to help you develop a statistical literacy that will help you become a conscientious and critical consumer of news, political events, and scientific research. Hopefully, the skills you acquire in this class will also assist you to develop competency in the technical tools you may need to compete in an increasingly large-N, data-driven world.

The course material will not always be easy, but it also does not have to be scary either. You do not need a background in mathematics, statistics, or R (or any other coding language) to succeed in this class because we will go step by step. Your TAs will make sure to introduce you to the basics of statistics and R during your Friday meetings.

Objectives

By the end of this course, students will be able to:

- Explain how political scientists use statistical methods to test theories.
- Analyze and critically evaluate the use of inferential statistics in applied settings.
- Think probabilistically about evidence for or against a hypothesis.
- Use data visualization and statistical techniques–including measures of central tendency and dispersion, hypothesis testing, linear regression, and logistic regression–to analyze data and answer questions about political phenomena.
- Interpret the results of statistical analyses to lay audiences both orally and in writing.
- Apply these techniques as part of an original study that tests a theory about some political phenomenon.

Readings and Course Materials

Readings

The readings are crucial to understanding the concepts and how they are applied. I ask you to read the required material for each lecture before the class. The required reading load is usually one chapter per class. For some classes, you will also be required to read (or skim) a scholarly journal article.

- (Required) Kellstedt, Paul M., and Guy D. Whitten. *The Fundamentals of Political Science Research*, 3rd Edition. Hereafter referred to as "KW".
- (Recommended) Wheelan, Charles. *Naked Statistics: Stripping the Dread from the Data.* (This is a ridiculously casual and accessible way to learn about statistics, so it will be a useful supplement if the required chapter reading is too technical.)

In addition to these books, there are also journal articles in political science. We will be discussing the research design and methodological approaches of these articles. Focus on the research design and methodology sections of the articles, so there is no need to read all of the contents. These articles are available on Canvas. You can also access the readings beside KW via our course's GitHub repository at https://github.com/ilaydaonder/POLS209/tree/Readings

Technology and Software

The course relies heavily on using the computer and software. I will provide tutorials to install and run the programs. The tutorials will be available on Canvas. In addition, your TAs will help you install and run these programs in your first Friday session.

- **Computer/Laptop:** You will use computers almost every day during your Friday meetings. Please do not forget to bring a computer to your Friday sessions with your TAs. You are welcome to bring your own laptop or rent one from the library.
- **R:** is the programming language we will use for our analyses. You can download it from: https://cloud.r-project.org/. Your TAs will help you download R to your computers in your first Friday meeting. If you run into any problem when downloading or installing R, let me know immediately after our first class meeting.
- **RStudio:** is the software that provides the interface to look at code output and visualization. You must install R before RStudio. You can download it from: https://posit.co/download/rstudio-desktop/. Your TAs will help you download RStudio to your computers in your first Friday meeting. If you run into any problem when downloading or installing RStudio, let me know immediately after our first class meeting.

Other Resources

- Google is your friend. If you are stuck with an error or question, try googling first to find a guide online.
- If you google an issue, you may find questions for similar issues on Stack Overflow. This is a community for R users to help each other and provide guides to resolve issues. You can access Stack Overflow via https://stackoverflow.com.
- There are many free online tools to help you familiarize yourself with R and statistics. They can help you as a reference tool. Here are some examples:
  - https://ourcodingclub.github.io/tutorials.html
  - https://www.statmethods.net/r-tutorial/index.html
  - https://www.cyclismo.org/tutorial/R/input.html
- We will do assignments (lab reports) using pre-existing datasets. For each assignment, I will post GitHub website links that contain the data we will use on Canvas. You can easily download our data from GitHub. You can also access the GitHub repository via https://github.com/ilaydaonder/POLS209.

Prerequisite

This class does not assume any prior statistical or programming experiences. Some background in Algebra should be enough for you to get comfortable with the concepts we will deal with.

Course Requirements

Most class periods have designated readings (see Schedule below) which largely come from the KW textbook. As we move further into the semester, you will also have some short academic articles to read. These academic articles typically exemplify the use of the statistics or methods we will discuss in that class period. Pay particular attention to the methods and results section in these papers and think about whether they are good choices for answering the research question the author poses. The assigned readings should be completed before the class day under which they are listed. They are required. Note, however, that in some cases I specify that a reading can just be "skimmed."

Lab Reports (40%)

There are 5 lab reports for you to practice with real data. You will be allowed to work on your lab reports during Friday's lab sessions where TAs will be available to answer your questions. Lab reports are meant to assess your understanding of the material and allow you to ask questions and seek help from TAs or your peers before solving similar problems in exam settings. You will submit each lab assignment on Canvas. You can access the lab report assignments via our course's GitHub repository.

- Describing and Visualizing Data Labs will be held on September 20 (Friday) and September 27 (Friday).
  Lab Report Due on September 30 (Monday).
  https://github.com/ilaydaonder/POLS209/tree/Lab-Report-1
- Hypothesis Testing Lab will be held on October 4 (Friday).
  Lab Report Due on October 7 (Monday).
  https://github.com/ilaydaonder/POLS209/tree/Lab-Report-2
- Manipulating Data Lab will be held on October 25 (Friday).
  Lab Report Due on October 28 (Monday).
  https://github.com/ilaydaonder/POLS209/tree/Lab-Report-3
- Regression Labs will be held on November 1 (Friday) and November 8 (Friday).
  Lab Report Due on November 11 (Monday).
  https://github.com/ilaydaonder/POLS209/tree/Lab-Report-4
- Logistic Regression Lab will be held on November 15 (Friday).
  Lab Report Due on November 18 (Monday).
  https://github.com/ilaydaonder/POLS209/tree/Lab-Report-5

Exams (30%)

There will be two exams (15% and 15% respectively). I will provide further details later, but for now, they will involve the use of R. I will hold review sessions before each exam in class. The exams will have multiple choice and open answer questions and the second exam will not be cumulative.

- **Midterm Exam:** October 16 (Wednesday)
- **Final Exam:** TBD

Final Project Poster (25%)

As we learn about how to do quantitative political science through this semester, you will do your own piece of original research. You can choose any topic in political science that interests you, and I and your TAs will be happy to talk to you about your topic and point you to resources (articles or data) to help you along the way. Doing research is extremely time-intensive and projects develop and evolve as you work on them. To help you structure your time, you will complete three preliminary assignments which you will submit to me via Canvas by the designated due dates: 1) your topic/hypothesis; 2) a codebook and data description; and 3) a preliminary analysis. Your TAs will be helping you with these assignments on your lab sessions on Fridays. Please note that you will NOT be writing a research paper. Instead, the final project will take the form of a poster which you will submit online (You will NOT be printing the poster). More details about each of the three checkpoint assignments as well as a rubric for your final poster will be made available on Canvas and our course's GitHub repository at https://github.com/ilaydaonder/POLS209/tree/Final-Project. We will also go over the final grading rubric in class towards the end of the semester.

- **Topic and Hypothesis Due:** September 16 (Monday)
- **Codebook and Data Description Due:** October 14 (Monday)
- **Preliminary Analysis Due:** November 25 (Monday)
- **Final Poster Due:** December 2 (Tuesday)

Attendance (5%)

Consistent attendance to lectures is one way to help you master the materials more quickly. Participation is important because you will be more likely to learn, understand, and retain material with which you are actively engaged. Participation can take many forms, including but not limited to asking and answering questions in class and coming to office hours.

Due Dates

All assignments are due by 5pm on the assigned due date unless stated otherwise. For now we will have all assignments uploaded to Canvas. If this turns out to be a disaster we'll change to something else.

How to be Successful?

Students come to this course with varied skills and interests in the design of research and applied statistics. I will do my best to make the material as accessible and easy to digest as possible. This requires you to do your part as well. Here are my tips for you:

- Read before class and come to class with any questions you have.

- Participate in class. At a minimum, attend class, but actively participating is another way to engage the material (see above).
- Do practice problems outside of class. There are some practice exercises at the end of each book chapter (KW).
- I, as well as your TAs, will hold weekly office hours. COME TO OFFICE HOURS AND ASK FOR HELP WHEN YOU NEED IT. Students that come to office hours often do very well in class. Coming to office hours does not mean you aren't smart; it means you care about this class.
- Take handwritten notes during class and while reading/watching the assigned material. Multiple studies also show that handwritten notes improve retention and improve understanding of material better than typed notes. When we get closer to exam time, re-organizing your handwritten notes by typing them up is also a good study strategy. However, I will never penalize you for taking notes on your computer.
- Study regularly. Many students cram their studying before an exam. An alternative strategy is to dedicate a little bit of time every other day or so to just reading through your notes. If you do this, you will find that studying before exams is far less stressful and usually you'll do better on them too.

Grading Scale

A	94 to 100%
A-	90 to 93.99%
B+	87 to 89.99%
B	83 to 86.99%
B-	80 to 82.99%
C+	77 to 79.99%
C	70 to 76.99%
D	60 to 69.99%
F	below 59.99%

Note that the decimal points here are meaningful. An 89.98% is a B+; it does not automatically round up to an A-. I recognize that cutoffs are arbitrary, but I have to set them nonetheless, and they apply to everyone. If you are reading this, please send me an email by 5 pm on the first day of class with your name, your major, and how many years you have completed at Texas A&M, and I will award you an extra credit point.

Other Procedures

Office Hours

I, as well as your TAs, will hold weekly office hours. If you need help with the material, come to office hours as much as you can. Our office and weekly office hours are listed at the top of page 1 of this syllabus. Students who come to office hours do the best in class.

Peer Collaboration

Working together is encouraged. You should definitely collaborate on your assignments. However, when submitting the assignments, the final work must be your own. This means that you must type in and produce your own results in R; you must write the written assignments yourself; and you must complete your own final projects. YOU MAY NOT COLLABORATE ON EXAMS.

Academic Dishonesty

Do not cheat. There are more details in the Academic Integrity section, but if you are unsure whether what you are doing is cheating, ask me. I do not tolerate academic dishonesty, and claiming ignorance about what cheating entails will not excuse you from the appropriate consequences.

Assignment Submissions

All assignments are to be submitted on Canvas. For R assignments, you must submit on Canvas both the code file (.R format) and the output file with the results produced and neatly presented. Points are deducted if you are missing the required files.

Late Assignments and Extensions

Assignments not submitted by the designated due date/time are late. Late submissions will be accepted but with a one-half grade (5%) per day (including weekends) penalty. All assignments must be completed to pass the course. Extensions will be granted in severe circumstances. If you feel you need an extension, please contact me at least 24 hours before the due date.

Long-term Absences

If you need to be away from class for an extended period either due to an illness or family matter, contact me and we will work up a plan to keep you caught up.

COVID-19

I will enforce university guidelines related to COVID-19. As of the beginning of the semester, masking is not required, but anyone who wishes to wear one is welcome to do so. These guidelines and rules are subject to change.

Academic Integrity

"An Aggie does not lie, cheat or steal, or tolerate those who do."

From the Student Rules: "Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" (Section 20.1.2.3, Student Rule 20).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities on the website https://aggiehonor.tamu.edu/. Please be familiar with the University's academic honesty policies. Violations will be handled with the utmost seriousness.

Disability Accommodation

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Resources and their instructors as soon as possible.

Statement on Mental Health

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at http://suicidepreventionlifeline.org.

Educational Equity and Reporting Bias Incidents

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, you will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with Counseling and Psychological Services (CAPS). Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's Title IX webpage.

Class Schedule

Below you will find a detailed list of class meetings, the topic we will cover, and assignments. You should complete reading and homework assignments before coming to class unless specifically listed otherwise. If any deviations from this schedule are necessary, I will let you know.

Date	**Topic and Readings**
August 19 (Mon)	Introduction Read: this syllabus.
August 21 (Wed)	Conducting Political "Science" (and social sciences in general) Read: Kellstedt & Whitten Textbook (KW) Chapter 1 (pages 1-21) Read: KW 2.5-2.6 (pages 33-41)
August 23 (Fri)	Downloading and Installing R and RStudio Read: Notes on R. Available on CANVAS. Install the following two programs on your computer: (1) R and (2) RStudio (in that order). **BRING YOUR COMPUTERS!**
August 26 (Mon)	Causation and Research Design I Read: KW Chapter 4 (pages 77-100)
August 28 (Wed)	Causation and Research Design II Read: KW Chapter 4 (pages 77-100)
August 30 (Fri)	Introduction to R **BRING YOUR COMPUTERS!**
September 2 (Mon)	**NO CLASS – Labor Day.**
September 4 (Wed)	**NO CLASS – Instructor at APSA conference.**
September 6 (Fri)	**NO LAB SESSION**
September 9 (Mon)	Measurement Read: KW 5.1-5.3 (pages 104-115) Skim: Eck Kristine and Christopher J. Fariss. 2018. "Ill Treatment and Torture in Sweden." *Journal of Human Rights* 40: 591-604. Available on CANVAS.

September 11 (Wed)	Data Collection and Operationalization Read: KW 6.1-6.2.3 (pages 125-129) Read: Wheelan Chapter 7. Available on CANVAS.
September 13 (Fri)	Final Project Topic and Hypothesis Lab Think about a few research topics and what you hypothesize to find. You will discuss them with your TAs.
September 16 (Mon)	Central Tendency Read: Burden, Barry C., Yoshikuni Ono, and Masahiro Yamada. 2017. "Reassessing Public Support for a Female President." *Journal of Politics* 79: 1073-1078. Available on CANVAS. (Recommended) Skim: Wheelan Chapter 3. Available on CANVAS. **DUE (Final Project): Project Topic and Hypothesis**
September 18 (Wed)	Dispersion Read: KW 6.2.4-6.6 (pages 130 - 140) (Recommended) Skim: Wheelan Chapter 3. Available on CANVAS.
September 20 (Fri)	Describing Data Lab Work on the first half of your first lab report with your TAs.
September 23 (Mon)	Data Visualization
September 25 (Wed)	Introduction to Probability and Inference Read: KW Chapter 7 Read: Carl Zimmer. 2014. "Why We Can't Rule Out Bigfoot" Available at https://nautil.us/why-we-cant-rule-out-bigfoot-235033/
September 27 (Fri)	Data Visualization Lab Work on the second half of your first lab report with your TAs.
September 30 (Mon)	Confidence Intervals and One-Sample Tests Read: KW 8.3 (pages 163-166) and 8.4.2 (pages 173-178) Play with: "Central Limit Theorem" https://seeing-theory.brown.edu/probability-distributions/index.html#section3 Play with: "Confidence Intervals" https://seeing-theory.brown.edu/frequentist-inference/index.html#section2 **DUE (Lab Report 1): Data Description and Visualization Lab Report**
October 2 (Wed)	Bivariate Hypothesis Testing and Statistical Significance Read: KW (pages 163-178) Read: Licklider, Roy. 1995. "The Consequences of Negotiated Settlements in Civil Wars." *American Political Science Review* 89(3): 681-690. Available on CANVAS.

October 4 (Fri)	Hypothesis Testing Lab Work on your second lab report with your TAs.

October 7 (Mon)	**NO CLASS – Fall Break.** **DUE (Lab Report 2): Hypothesis Testing Lab Report**
October 9 (Wed)	Difference of Means and Statistical Significance Read: KW (pages 163-178) Read: Licklider, Roy. 1995. "The Consequences of Negotiated Settlements in Civil Wars." *American Political Science Review* 89(3): 681-690. Available on CANVAS.

October 11 (Fri)	Codebook and Data Description Lab Work on your final project's codebook and data descriptions with your TAs.

October 14 (Mon)	Midterm Review **DUE (Final Project): Project Codebook and Data Description**
October 16 (Wed)	**MIDTERM EXAM**

October 18 (Fri)	**NO LAB SESSION**

October 21 (Mon)	Correlation and Covariation Read: KW 8.4.3 (pages 178-184) Read: Inglehart, Ronald. 2003. "How Solid is Mass Support for Democracy–And How Can We Measure It?" *PS: Political Science and Politics* 36: 51-57. Available on CANVAS.
October 23 (Wed)	Bivariate Regression I Wheelan Chapter 11. Available on Canvas

October 25 (Fri)	Manipulating Data Lab Work on your third lab report with your TAs.

October 28 (Mon)	Bivariate Regression II Read: KW Chapter 9 (pages 188-212) Skim: Lyall, Jason. 2009. "Does Indiscriminate Violence Incite Insurgent Attacks?" *Journal of Conflict Resolution* 53(3): 331-332. Available on CANVAS. **DUE (Lab Report 3): Manipulating Data Lab Report**

October 30 (Wed)	Multivariate Regression Read: KW 10.1-10.6 (pages 215-228) and 10.8 (pages 233-236) Read: Canelo, Kayla S., Thomas G. Hansford, and Stephen P. Nicholson. 2018. "The Paradoxical Effect of Speech-Suppressing Appeals to the First Amendment." *Journal of Politics* 80: 309-313. Available on CANVAS.
November 1 (Fri)	Regression Lab I Work on your fourth lab report with your TAs.
November 4 (Mon)	Model Specification and Statistical Control / Regression Lab Read: KW 10.7 (pages 228-233) and 11.1-11.3 (pages 246-258) Skim: Enders, Adam M., Joseph E. Uscinski, Casey A. Klofstad, Stefan Wuchty, Michelle I. Seelig, John R. Funchion, Manohar N. Murthi, Kamal Premaratne, and Justin Stoler. 2022. "Who Supports QAnon?" *Journal of Politics* 84(3): 1845-1849. Available on CANVAS.
November 6 (Wed)	Multicollinearity and Outliers Read: KW 11.4-11.5 (pages 258-270) Skim: Crabtree, Charles and Matt Golder. 2016. "Party System Volatility in Post-Communist Europe." *British Journal of Political Science* 47(1): 229-234. Available on CANVAS.
November 8 (Fri)	Regression Lab II Work on your fourth lab report with your TAs.
November 11 (Mon)	Logistic Regression Read: KW 12.2 (pages 274-282) Skim: Fearon, James D., and David Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 108: 588-604. Available on CANVAS. **DUE (Lab Report 4): Regression Lab Report**
November 13 (Wed)	Research Ethics Read: LaCour, Michael J. and Donald P. Green. 2014. "When Contact Changes Minds: An Experiment on Transmission of Support for Gay Equality." *Science* 346(6215): 1366-1369. Available on CANVAS.
November 15 (Fri)	Logistic Regression Lab Work on your fifth lab report with your TAs.
November 18 (Mon)	**NO CLASS – Bonfire 1999 Remembrance Day.** **DUE (Lab Report 5): Logistic Regression Lab Report**
November 20 (Wed)	Poster Stuff

November 22 (Fri)	Preliminary Analysis for Final Project Lab Work on your final project's preliminary analysis with your TAs.

November 25 (Mon)	Review for Final I **DUE (Final Project): Preliminary Analysis**
November 27 (Wed)	**NO CLASS – Reading Day.**

November 29 (Fri)	Analysis for Final Project Lab Work on completing your final project's analysis with your TAs.

December 2 (Mon)	Review for Final II

By 11:59PM EST on **MONDAY DECEMBER 2**, EVERYONE must upload the following to CANVAS:

- Poster file
- Replication Data
- R code (clean and commented .R file)

Finals Week: December 5-11

Final Exam	TBD