

PS 0700
Research Methods in Political Science
University of Pittsburgh
Summer 2024

Tuesday & Thursday 12PM - 3:15PM
232 Lawrence Hall

Instructor: Melek Hilal Eroglu

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Office Hours: By appointment via email

Office Hour Location: 4435 Posvar or Zoom

Course Description

The course provides an introduction to scientific inquiry applied to the study of politics. The main emphasis of this course is to introduce political science majors to key analytical concepts and to their application to the study of politics. The course covers the logic of scientific inquiry, research design, and quantitative methods. In addition, students will learn some basic data analysis techniques in a popular free software (R). The course will focus on different forms of research including experimental studies, observation data, and predictive inference.

After taking this course, students will be able to understand, explain and perform social science research as seen in popular media, policy memos, and academic political science articles. This will cover questions such as does reading the news make people more likely to vote? Do democracies go to war with other democracies? Did exposure to Russian TV lead Ukrainian voters to choose pro-Russian parties? How well do polls predict American presidential elections?

Objectives By the end of the course, students should be able to:

- understand ways in which political scientists try to learn about the world
- think critically and carefully about whether causal claims should be believed
- consider the benefits and costs of using experimental methods to study politics
- understand observational data and think carefully about potential sources of error
- know how to quantify and interpret uncertainty in published results
- understand political science research that will help you in other classes
- be able to perform simple data analysis and visualizations of political data

Expectations

In this course, you will be expected to

- attend classes (in-person)
- take five quizzes
- complete five assignments
- complete the final project

Course Format

Lectures meet on **Tuesdays and Thursdays (12:00-3:15 PM) in 232 Lawrence Hall**. Attendance is mandatory. Students with extenuating circumstances who cannot attend a particular lecture will turn in a written make-up assignment and maybe a quiz— please contact me in advance if this is the case.

Each class will consist of two sessions.

First session will mix lecture, small group activities, and some exercises. In each session, we will go over a topic and discuss how political scientists use theory and data to answer important research questions.

Second session will consist of two modes: On Tuesday, you will do a timed 60-minute quiz during the session. On Thursday, you will do coding exercises and an assignment will be handed out. We will focus more on learning to use R, a free open-source software package, to analyze data. R is increasingly popular in the social sciences and it allows you to do original research for your papers and theses in advanced coursework. Further, knowing how to manipulate and analyze data is a valuable skill outside of academia.

Readings

For this course, we will mostly use a new textbook on data analysis for social science.

- Required: DSS - Data Analysis for Social Science: A Friendly Introduction, Kosuke Imai and Elena Llaudet

The following book is optional but may be helpful to deepen your understanding.

- Quantitative Social Science: An Introduction, Kosuke Imai

Course Requirements and Grading

There will be no midterm or final exams in this course. Instead, we will have a variety of shorter assignments, quizzes, and other forms of assessment throughout the term to assess your understanding and application of the course material.

This is a graded class based on the following:

Quizzes 40%

Final Project 30%

Assignments 20%

Participation 10%

The course will use the following grade boundaries:

A+ Exceptional Circumstances	B+ 87-89	C+ 77-79	D+ 67-69 F 0-59
A 93 or higher	B 83-86	C 73-76	D 63-66
A- 90-92	B- 80-82	C- 70-72	D- 60-62

- **Quizzes (40%)**

Quizzes will be administered during Tuesday classes. The quiz will be posted on Canvas, and the passcode to open the quiz will be given in the class. You will be given 60 minutes to complete and must upload your response to Canvas. See below for the schedule of the quizzes.

No discussion of the questions is permitted between students; doing so will result in an automatic zero and will count as an academic integrity violation (see below for the full policy).

We will drop your lowest quiz grade in the calculation of the final grade. Thus, if you have an emergency that forces you to miss one quiz, your grade will not be severely affected. The four remaining quizzes will be weighted at 10% each.

- **Final Project: Research Design (30%)**

- Students will create a research question in a social sciences topic, derive hypothesis from this question. Students then discuss how they are going to test hypotheses (e.g., by using “ideal type” experiment or survey?). Students will then discuss the pros and cons as well as the feasibility of their design and use open-source data sets to conduct some statistical analysis on their hypothesis and describe their findings.
- Projects are due on the last day of classes by midnight. ALL students must meet with the instructor by WEEK 3 to discuss their project.

- **Assignments (20%)**

- Assignments will be handed out on Thursday. It must be uploaded by the following Wednesday at 11:59 pm and is graded mostly for completion. These are designed to practice with the methods and techniques covered in lecture. It will give you an

introduction to data analysis, many students find it helpful to have a practical example to reinforce the discussion in lecture.

- Students may work together to complete these assignments, but each student must turn in their own answers and R scripts.

- **Participation (10%)**

- All students are expected to attend lectures in person. Lectures may include discussions, simulations, activities, or small group assignments. Participation grades are based on both the **quality and quantity** of participation in lectures. (Note that attendance alone is not sufficient to receive full credit.)
- All absences (except extenuating circumstances) will be deducted from the final grade. To prevent such a grade deduction, students who cannot attend a lecture should contact me and you will be given the opportunity to make up the work you missed. It is generally the completion of a written assignment by 11:59pm on that Friday. You may also be asked to complete the quiz and extra assignments depending on which class you missed.
- The class participation portion of the grade can be satisfied in one or more of the following ways:
 - attending the lectures
 - asking and answering questions in class
 - participation in discussion
 - participation in in-class activities.

Late Policy: All late assignments will be marked down a third of a grade for each day following the due date. After a week, it will no longer be accepted. Any unreadable assignment submitted will be marked late and dated to when a readable version is received. I understand that students may confront unexpected health or logistical difficulties due to the COVID-19 pandemic. If circumstances make it difficult for you to complete an assignment on time, contact me. If possible, do so in advance of the deadline (cases for extensions are less likely to be accepted when made the day of or after the deadline). I will be as flexible as possible in providing extra time to those who need it.

How to Use Canvas

- Under the “Files” folder, you will find twelve subfolders, each dedicated to one week’s materials. In these folders you will find the week’s materials.
- Under the “Files” folder, you will also find the most up-to-date syllabus. The instructor might occasionally update the syllabus during the semester. The instructor will inform the students of any syllabus change, and students should always refer to the syllabus in the Files folder for information on the course.
- Important notifications will be sent from Canvas and be posted under the “Announcement” section. Students should regularly check their Pitt emails or the Announcement section on Canvas for communication from the instructor.
- For more resources on how to use Canvas, see:
<https://canvas.pitt.edu/courses/643/pages/student-resources-for-using-canvas>.

Class Policies

Email Communications

The instructor will respond to student emails within a maximum of 2 business days. Students should check their Pitt email regularly for class announcements.

Grade Appeals

Students who wish to appeal a grade they've received must do so in writing. The written document should explain why they believe they deserve a different grade than the one they received, submit the appeal to me, I will then schedule a time to meet with the student to discuss their appeal. A final decision will be made after the meeting.

Academic Integrity

Students in this course are expected to comply with the University of Pittsburgh's Policy on Academic Integrity. Cheating, plagiarism, or other acts of academic dishonesty will not be tolerated. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated by the instructor, as outlined in the University Guidelines on Academic Integrity. More information and the complete policy can be found at <http://www.provost.pitt.edu/info/ai1.html>.

Accommodations

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both me and the Office of Disability Resources and Services (DRS), 140 William Pitt Union, (412-648-7890, 412-228-5347 for P3 ASL users), drsrecp@pitt.edu, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course. For more information, please see <https://www.studentaffairs.pitt.edu/drs/>

Health and Safety during the COVID-19 Pandemic

During this pandemic, it is extremely important that you abide by public health regulations, the University of Pittsburgh's health standards and guidelines, and Pitt's Health Rules. These rules have been developed to protect the health and safety of all of us. University regulations may change. For the most up-to-date information and guidance, please visit coronavirus.pitt.edu and check your Pitt email for updates before each class.

If you are ill and unable to join lecture, you should inform me via email in advance.

SCHEDULE & READINGS

	Date	Session 1	Session 2
		Lecture Topic	Coding exercise/Quizzes
1	May 14 (Tu)	Introduction Goals of Social Science (DSS Chapter 1)	Getting Started with R and RMarkdown
2	May 16 (Thu)	Causality (Randomized Experiments) 1 (DSS Chapter 2)	Working with Data and Basic Data Analysis in R (Assignment 1 will be handed out)
3	May 21 (Tu)	Causality (Randomized Experiments) 2 (DSS Chapter 2)	QUIZ 1: Goals, Causality 1
4	May 23 (Thu)	Description 1: Summarizing and Visualizing a Dataset (DSS Chapter 3.1-3.3)	Describing and Visualizing Data (Assignment 2 will be handed out)
5	May 28 (Tu)	Description 2: Survey Research and Correlations (DSS Chapter 3.4-3.7)	QUIZ 2: Causality 2, Description 1
6	May 30 (Thu)	Prediction 1: Election Forecasting and Regression (DSS Chapter 4)	Estimating a Regression (Assignment 3 will be handed out)
7	June 4 (Tu)	Prediction 2: Is Regression Causal? (DSS Chapter 4)	QUIZ 3: Description 2, Prediction 1
8	June 6 (Thu)	Causality (Observational Data) 1: (DSS Chapter 5)	Interpreting Regression (Assignment 4 will be handed out)
9	June 11 (Tu)	Causality (Observational Data) 2: (DSS Chapter 5)	QUIZ 4: Prediction 2, Causality 1
10	June 13 (Thu)	Probability (DSS Chapter 6)	Performing Hypothesis Tests (Assignment 5 will be handed out)
11	June 18 (Tu)	Uncertainty (DSS Chapter 7)	QUIZ 5: Causality 2, Probability
12	June 20 (Thu)	No class Final Project Submission	Due by midnight on June 20

Inspired by the Research Methods syllabus created by Professor Max Goplerud at the University of Pittsburgh