

Fall 2024

POLS 6010 - Research Design

Instructor: Diego Romero

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Office: Old Main 324C

Meeting time: Tue-Thu, 13:30 to 14:45

Classroom: Old Main 318

Office hours: Thu, 11:00-13:00 ([sign up here](#)).

Course Description

What do we mean by political “science”? It is the way we study politics right, and this course will introduce it. We will discuss the components of a good research design, including how to raise an interesting question, connect your theoretical argument with empirical evidence, and collect and analyze data to examine your argument. This course also introduces some basic concepts and tools of quantitative analysis. POLS 6010 is designed as the entry-level method seminar for graduate students in political science. Walking out of this class, you will gain an understanding of how to conduct your own research and evaluate the work of your peer political scientists. The seminar should also help you figure out the path to learning more advanced methods. These basics of social science methodology are transferable to other disciplines and, importantly, other professions outside academia.

In addition to figuring out how to ask “good” research questions, we students will begin to develop a basic toolkit which includes the most common research designs in the social sciences: randomized experiments, observational studies, regression discontinuity designs, and difference-in-difference designs.

Note: This course assumes no previous knowledge of statistics or programming. This syllabus is subject to change at the instructor’s discretion based on the needs of the class.

Learning Objectives

- Learning how to find, evaluate, and use resources to explore a topic in depth (IDEA Objectives 9).
- Learning to analyze and critically evaluate ideas, arguments, and points of view (IDEA Objectives 11).
- Learning appropriate methods for collecting, analyzing, and interpreting numerical information (IDEA Objectives 13).

Prerequisites

There are no prerequisites.

Readings and Textbook

Course readings will be drawn primarily from the required books (available as an e-book on Canvas):

de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Llaudet, Elena and Imai, Kosuke (2022). *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton, NJ: Princeton University Press.

Besides this textbook, I would highly recommend you to get your own copy of the following books which will come handy in your academic journey:

- Imai, Kosuke. 2022. *Quantitative Social Science: An Introduction*. Princeton University Press.
- Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (*this one is available online*).

These books are **not** required for this class. Whenever a reading from these books is assigned in class you will be able to access it on Canvas. Similarly, whenever academic journal articles are assigned, they will be available on Canvas.

Statistical Software

R is a free, open-source [language for statistical computing and graphics](#). It makes data visualization, simulation and sampling easily accessible. To get a better sense of R's popularity: read a [summary of software use in data analytics](#).

We will program in R (www.r-project.org), using an interface called RStudio (www.rstudio.com).

If at any point during the semester, your computer does not cooperate, please use on-campus computer labs at AGRS 135 and TSC 101, they have all required software installed.

Expectations and Evaluation

Students are expected to attend every lecture, to complete all of the required readings, and to come to class prepared to comment on, and discuss the material. When additional materials are posted, I will note explicitly whether they are required or merely optional for interested students. Note that lectures will sometimes cover material that is not in the readings, and the readings may contain material that is not covered in the lectures. Both are critical to your success.

- ▷ Class Attendance (3%)
- ▷ Statistics Labs (7%)
- ▷ Research Design Project (50%)
- ▷ Paper Memo and Discussion (40%)

Class Attendance (3%)

As mentioned before, to succeed in the course, it is essential to attend class and participate in the lectures. Lecture slides will also be posted on Canvas. Attendance represents 3% of the final grade.

Statistics Labs (7%)

There will be 7 graded programming labs which you will complete in class and submit via canvas by the end of the meeting and no later than 23:00. They will be graded as pass/fail, i.e., every submitted exercise will count as 1 point, while every missed exercise will receive 0 points.

Collaboration is permitted and encouraged. However, I expect to receive a completed assignment per individual.

Research Design Project (50%)

This is an individual assignment which consists on developing a research proposal by the end of the semester. The objective of this assignment is to give you an opportunity to start thinking about your MA thesis and to get feedback as you begin the design process. To that end, you will have three opportunities to receive feedback from the instructor and your peers before you submit your final proposal at the end of the semester.

The first milestone consists of a brief presentation of your research interests, during our September 5th meeting. *While you will not be graded for this presentation* you are expected

to prepare slides.

The second milestone for this assignment will consist of a 5-page research proposal draft outlining your research question, argument, and proposed design. Your argument must include a hypothesis developed with reference to a concise literature review. This first draft is due by 23:00 on **November 26**.

Your first draft will be graded for substance, clarity and the degree to which your proposed design can adequately help you answer your research question. In terms of formatting, your first draft should be no longer than 5 pages excluding references (Times New Roman font size 12, 1-inch margins and 1.5 spacing). You should cite your references using the [Chicago-Style](#). After you submit your first draft you will receive feedback from the instructor to improve your proposal. You are expected to incorporate that feedback as you prepare your presentation (Week 15), as well as your final draft (due by 23:00 on **December 9**).

Students will present their research proposals during the last week of classes (Week 15). Each presentation should last no longer than 15 minutes, and will be followed by a 10-minute feedback session. Your presentation will be graded for substance, clarity and the way you handle questions from your peers. Additionally, you will also be graded on the feedback you give your peers.

Your final draft will be graded for substance, clarity and the degree to which your proposed design can adequately help you answer your research question. In terms of formatting, your draft should be no longer than 5 pages excluding references (Times New Roman font size 12, 1-inch margins and 1.5 spacing). You should cite your references using the [Chicago-Style](#).

Here is a summary of how this assignment and each of its components will be graded:

- Initial presentation (September 5, during class): ungraded.
- First draft (due on November 26): 10 points
- Final presentation (December 3 & 5): 10 points
- Participation in the feedback sessions (December 3 & 5): 10 points
- Final draft (due on December 9): 20 points

Paper Memo and Discussion (40%)

This is a group assignment comprised of two parts. Your group must choose one of the two papers assigned for meetings 24 and 26. Then, your group must prepare a brief paper memo (due by 23:00 on the night before the presentation) and lead the discussion of the paper during our meeting.

Your memo should contain the following:

- A brief summary of the paper (at most 5 sentences).
- A brief discussion and critic of the paper's argument (at most 10 sentences).
- A brief discussion and critic of the paper's research design (at most 10 sentences).
- A brief discussion of why the paper is considered a contribution to the study of the particular topic (at most 10 sentences).
- Identification of at least one limitation of the paper (e.g., problematic interpretation of key results, measurement problems).
- Identification of at least one extension of the work using the same data (e.g., explore heterogeneous effects or additional tests).

You will then use this memo as a guide to presenting and discussing the paper during our meeting. You are encouraged to meet with the instructor as you prepare your memo and presentation for the class.

Here is a summary of how this assignment and each of its components will be graded:

- Paper memo (due by 23:00 the night before the meeting): 20 points
- Paper presentation and discussion: 20 points

Course Policies

Late Submissions

Problem sets: 0.5 points will be deducted for *every day late*. The only exceptions to this policy are *documented* cases of serious illness or family tragedy.

Therefore, *you are strongly encouraged to start working on your assignments early*, and to attend class and office hours to have questions answered promptly.

Attendance

Class attendance is required and this class cannot succeed without your participation. Also note that you cannot succeed in this class if you show up to class without previously having read the assigned material. As an instructor, I believe it is essential to reward students who come to class ready to learn and contribute to our discussions. To keep attendance, I will pass around a sign-in sheet for every class and enter this information into the Attendance record on Canvas.

In the event of excessive absences, grade penalties will be applied. [According to the USU General Catalog](#), “Excused absences may not exceed 20% of the class meetings.” Students with excessive absences will receive penalties on their final average. Students whose attendance is below 80% will be subject to letter-grade deductions, ranging from partial to full penalties depending on the number of absences. Students whose attendance is at or below 60% are at risk for failing the course.

Communication and Office Hours

I primarily use emails and announcements on Canvas to communicate with students. Please check Canvas frequently throughout the semester.

You should feel free to email me with any specific questions about course materials or logistics. Please treat your email as a professional correspondence and be as clear and specific as possible, and please include “PS 6010” at the beginning of the subject line.

I will hold weekly office hours on Thursday mornings (11:00 to 13:00). As indicated at the top of the syllabus, you must sign up for them using [this link](#). If you are unavailable during this time period, feel free to email me to schedule a separate appointment.

Collaboration With Other Students

In completing the assignments, you are encouraged to interact with your instructor and student colleagues. However, sharing answers to the assignments, including online reading quizzes or exams, is strictly prohibited. If assignments are submitted that look suspiciously similar, they will be investigated for academic misconduct (see below).

Use of AI Tools

You are welcome to use generative AI tools, such as ChatGPT, *to assist you with your work in the course but not to do the work for you*. In doing so, it is important to remember that such AI tools are capable of making errors, and that it is each student’s responsibility to verify the information they receive from such tools. In addition, any information obtained from a generative AI source must be noted/cited in the student’s work, just as they would cite any other source.

Technical Problems

It is your responsibility to ensure that you can access the material posted on Canvas, and that you can use the Canvas site to take quizzes and exams, submit papers, etc. I cannot troubleshoot technical problems for all students, so you should consult the online [Service](#)

[Desk](#) or contact their phone number at (435)-797-HELP or email servicedesk@usu.edu. If you are having a problem with Canvas, a good first step is to try a different internet browser or computer.

Academic Integrity

The University expects that students and faculty alike maintain the highest standards of academic honesty. The Code of Policies and Procedures for Students at Utah State University ([Student Conduct](#)) addresses academic integrity and honesty and notes the following:

Academic Integrity

Students have a responsibility to promote academic integrity at the University by not participating in or facilitating others' participation in any act of academic dishonesty and by reporting all violations or suspected violations of the Academic Integrity Standard to their instructors.

The Honor Pledge

To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." Violations of the Academic Integrity Standard (academic violations) include, but are not limited to cheating, falsification, and plagiarism.

Plagiarism

Plagiarism includes knowingly **"representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials."** The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

Students with Disabilities

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the [Disability Resource Center \(DRC\)](#) as early in the semester as possible (University Inn #101, 435-797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

Mental Health

Mental health is critically important for the success of USU students. 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 or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at [Counseling and Psychological Services \(CAPS\)](#).

Students are also encouraged to download the [SafeUT App](#) to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide related issues.

Sexual Harassment

Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and [USU Policy 339](#) address sexual harassment in the workplace and academic setting.

The university responds promptly upon learning of any form of possible discrimination or sexual misconduct. Any individual may contact USU's [Affirmative Action/Equal Opportunity \(AA/EO\) Office](#) for available options and resources or clarification. The university has established a complaint procedure to handle all types of discrimination complaints, including sexual harassment ([USU Policy 305](#)), and has designated the AA/EO Director/Title IX Coordinator as the official responsible for receiving and investigating complaints of sexual harassment.

Important Deadlines

- **September 5** (in class): First presentation about your research interests. This is not a graded assignment but you are expected to present and prepare slides.
- **November 13** and **November 20** (by 23:00): Paper memo (due the night before your group presents).
- **November 14** and **November 21** (during class): Student-led presentation/discussion.
- **November 26** (by 23:00): First draft of your research proposal.

- **December 3** and **December 5** (during class): Presentation of your research proposal.
- **December 8** (by 23:00): Final research proposal.

Schedule and Reading Assignments

Week 1

Meeting 1 (August 27): Introduction to the Course

- No required readings.

Meeting 2 (August 29): The Scientific Method and Studying Politics

- **REQUIRED.** (Chapters 1-3) Frankfort-Nachmias, and Nachmias. 2007. *Study Guide for Research Methods in the Social Sciences*. Macmillan, 2007. Chapters. 1–3.

Week 2

Meeting 3 (September 3): Research Design

- **REQUIRED.** (Chapters 1 & 2) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#) and [here](#))
- **Suggested.** Geddes. 2003. *Paradigms and Sand Castles: Theory Building and Research Design in Comparative Politics*. University of Michigan Press.

Meeting 4 (September 5): Initial Presentations.

- No required reading.

Week 3

Meeting 5 (September 10): [Statistics Lab I](#): Introduction to R.

- **REQUIRED.** (Chapter 1) Llaudet and Imai. 2022. *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton University Press.

Meeting 6 (September 12): [Statistics Lab II](#): Probability and Probability Distributions

- **REQUIRED.** (Chapter 6) Llaudet and Imai. 2022. *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton University Press.

Week 4

Meeting 7 (September 17): Correlation and Causation, an Introduction

- **REQUIRED.** (Chapters 2 & 3) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.
- Suggested.

Meeting 8 (September 19): **Statistics Lab III:** Describing Variables

- **REQUIRED.** (Chapter 3) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Week 5

Meeting 9 (September 24): Describing Relations

- **REQUIRED.** (Chapter 4) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.
- **REQUIRED.** (Chapter 4) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Meeting 10 (September 26): Linear Regression for Description and Forecasting

- **REQUIRED.** (Chapter 5) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Week 6

Meeting 11 (October 1): **Statistics Lab IV:** Linear Regression I

- **REQUIRED.** (Chapter 4) Llaudet and Imai. 2022. *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton University Press.

Meeting 12 (October 3): Identification

- **REQUIRED.** (Chapter 5) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Week 7

Meeting 13 (October 8): Statistical Inference

- **REQUIRED.** (Chapter 6) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Meeting 14 (October 10): [Statistics Lab V](#): Hypothesis Testing

- **REQUIRED.** (Chapter 7) Llaudet and Imai. 2022. *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton University Press.

Week 8

Meeting 15 (October 15): Causality

- **REQUIRED.** (Chapter 9) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Meeting 16 (October 17): Causal Diagrams

- **REQUIRED.** (Chapters 6 & 7) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#) and [here](#))

Week 9

Meeting 17 (October 22): Randomized Experiments

- **REQUIRED.** (Chapter 11) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Meeting 18 (October 24): [Statistics Lab VI](#): Randomized Experiments

- No required reading, but *make sure you did the readings assigned for October 29.*

Week 10

Meeting 19 (October 29): Linear Regression and Controlling for Confounders

- **REQUIRED.** (Chapter 10) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.
- **REQUIRED.** (Chapter 13) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Meeting 20 (October 31): [Statistics Lab VII](#): Linear Regression II

- No required reading, but *make sure you did the readings assigned for October 29.*

Week 11

Meeting 21 (November 5): Matching I

- **REQUIRED.** (Chapter 14) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Meeting 22 (November 7): Matching II

- **REQUIRED.** (Chapter 14) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))

Week 12

Meeting 23 (November 12): Regression Discontinuity Designs I

- **REQUIRED.** (Chapter 12) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.
- **Suggested.** (Chapter 20) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))
- **Suggested.** Valentim, Núñez, and Dinas. 2021. “Regression discontinuity designs: a hands-on guide for practice.” *Italian Political Science Review* 51(2): 250-268 (available on Canvas).

Meeting 24 (November 14): Regression Discontinuity Designs II

- **REQUIRED.** Gagliarducci, Stefano, and Tommaso Nannicini. 2013. “Do better paid politicians perform better? Disentangling incentives from selection.” *Journal of the European Economic Association* 11(2): 369-398 (available on Canvas).
- Student-led presentation/discussion.

Week 13

Meeting 25 (November 19): Difference-in-Difference Designs I

- **REQUIRED.** (Chapter 13) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.
- **Suggested.** (Chapter 18) Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality*. CRC Press. (Available online [here](#))
- **Suggested.** There is another useful online source [here](#).

Meeting 26 (November 21): Difference-in-Difference Designs II

- **REQUIRED.** Card, David, and Alan B. Krueger. 1994. “Minimum wages and employment: A case study of the fast food industry in New Jersey and Pennsylvania.” *American Economic Review* 84(4): 772-793 (available on Canvas).
- Student-led presentation/discussion.

Week 14 - Assessing Mechanisms

Meeting 27 (November 26): Assessing Mechanisms

- **REQUIRED.** (Chapter 14) de Mesquita, Ethan Bueno, and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis*. Princeton University Press.

Meeting 28 (November 28): Thanksgiving Holiday

- No meeting.

Week 15 - Final Presentations

Meeting 29 (December 3): Student Presentations

- No required readings.

Meeting 30 (December 5): Student Presentations

- No required readings.