

GLA 5013 001; POL 5013 001

Research Methods ; Research Methods

Course Syllabus - Spring 2026



Course Information

Course Description: Cross-listed courses include GLA 5013.001, POL 5013.001

Credit Hours: 3; 3

Course Modality: Traditional in-person

Meeting Times

Duration: 01/20/2026-05/13/2026; 01/20/2026-05/13/2026

Campus: Main Campus; Main Campus

Location: [MH 3.03.12](#); [MH 3.03.12](#)

Time(s): T 6:00 PM - 8:45 PM; T 6:00 PM - 8:45 PM

Learning Goals

At the end of the course, you will be able to:

- Evaluate whether the quantitative evidence presented by an author is enough to support their claims.
- Understand the fundamentals of inferential statistics, including how to translate a social scientific concept into an observable, measurable characteristic; the statistical principles that allow researchers to gain knowledge about a phenomenon or characteristic of interest without having observed it; and what we can learn from quantitative evidence, what we are uncertain about, and how to handle that uncertainty.

- Understand how to acquire, clean, and explore data, as well as conduct statistical analysis using the R programming language and the Rstudio interface.
- Effectively communicate (visually and in written form) your analysis and findings.

Communicate with Me

Instructor Name: Connor Dye

Department

Political Science and Geography

Office Location

MS.4.03.68

Student Hours

W 3:30-5. Follow link to book: <https://calendly.com/cwdye/office-hours>

Email Address: connor.dye@utsa.edu

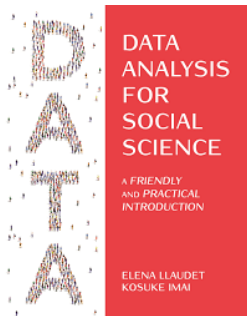
Preferred Method of Communication

Email

About Me & My Teaching Philosophy

I am committed to empowering my students by providing them with the tools they need to explore and engage with their own academic interests. I believe in giving students substantial leeway in choosing their research topics, creating an environment where they can pursue what genuinely excites them. In my research, I specialize in applying natural language processing (NLP) techniques to the study of political institutions, with a particular focus on the U.S. Congress and the federal bureaucracy. Outside of academia, I enjoy cooking, finding restaurants that serve delicious *and* cheap food, exercising, travelling, golfing, and watching RedZone.

Course Materials



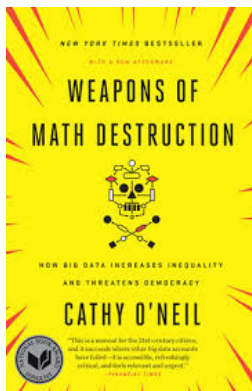
Data analysis for social science: a friendly and practical introduction

Authors: Llaudet, Elena; Imai Kosuke

Publisher: Princeton University Press

Publication Date: 2023

Required/Recommended/Optional: Required



Weapons of Math Destruction

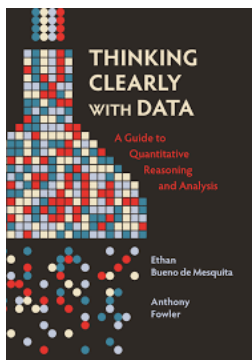
ISBN: 978-0553418811

Authors: O'Neil, Cathy

Publisher: Crown

Publication Date: 2016

Required/Recommended/Optional: Required



Thinking clearly with data: a guide to quantitative reasoning and analysis

Authors: Bueno de Mesquita, Ethan; Fowler, Anthony

Publisher: Princeton University Press

Publication Date: 2021

Required/Recommended/Optional: Optional



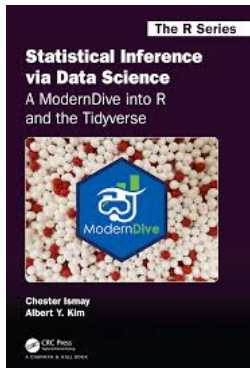
OpenIntro Statistics

Authors: David Diez, Mine Cetinkaya-Rundel, and Christopher Barr

Required/Recommended/Optional: Optional

Additional Information

<https://leanpub.com/openintro-statistics>



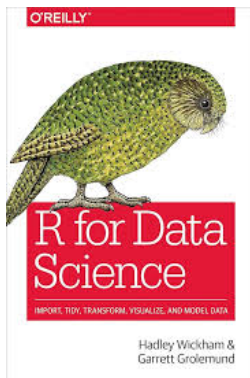
Modern Dive

Authors: Ismay and Kim

Required/Recommended/Optional: Optional

Additional Information

<https://moderndive.com>



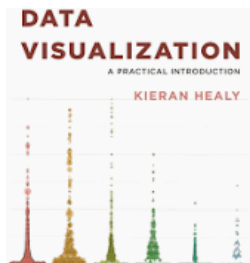
R for Data Science

Authors: Grolemund and Wickham

Required/Recommended/Optional: Optional

Additional Information

<https://r4ds.hadley.nz/>



Data Visualization: A Practical Introduction

Authors: Healy, Kieran

Required/Recommended/Optional: Optional

Additional Information

<http://socviz.co/>

To enhance your learning and adequately prepare for all assignments and assessments, please consider all course materials listed above, along with additional content provided in class, posted to our course site, or included in the Course Schedule, as required reading and study unless indicated as optional.

Assessments and Assignments

We will rely on a mix of classroom work, take-home exercises, exams, and an independent research project.

Classroom Work

We will meet in person every Tuesday from 6:00 p.m. to 8:45 p.m.. Some sessions will include lectures, some will include discussions, and some will include in-class exercises. Occasionally, you will also be asked to prepare material to share with the class. Participation in discussions and in-class exercises is expected, and students will receive a participation grade for each class. The participation grade is primarily intended to encourage engagement and reward students for contributing meaningfully to the class. This includes active involvement in class discussions, group activities, and other in-class assignments. For classes where students are required to present material, the participation grade will also reflect their preparedness for the presentation.

Your participation grade will be based on the effort you demonstrate throughout the semester. This includes carefully reviewing the assigned readings, arriving prepared, and actively engaging in class activities. Do not assume that you will receive full marks automatically; each point must be earned through consistent and meaningful participation. Carefully review the assigned readings, come to class, participate in class discussions, and you will earn a good participation grade.

Take-home Exercises

Students will complete 4 exercises that will be due on weeks 4, 6, 11, and 14.

- I encourage work to be collaborative: I strongly suggest that you work in teams to code, but your exercises will be written up and submitted individually. If you work in teams, write that at the top of the exercise (i.e. "For this part of the code, I worked with student A and B").
- Questions about coding and the assignment are encouraged, so please ask and answer the questions of your classmates if you can!

- Exercises will be distributed in an RMD (Rmarkdown document), and they will be submitted in a .doc format. Make sure that your code is appropriately annotated and correctly formatted so that it is easily readable. Partial credit will only be given if I can understand your code.

Research Note

One of the primary goals of the course is to enable students to leverage the tools of quantitative analysis to support their arguments and develop evidence-based insights. For the research note, students will apply quantitative methods to a topic of their choosing, ideally one they plan to explore further in their thesis. If students do not intend to use quantitative analysis in their thesis or cannot find data related to their area of interest, they will be provided a dataset to analyze. All assignments except for the final presentation will be submitted as an RMD file. The research note consists of four assignments.

- A variable description summary identifying the dependent and independent variables and explaining how each will be measured. **Due February 5th.**
- A descriptive analysis including summary statistics (mean, median, percentages, or frequency distributions) and at least 2 figures for both the dependent and independent variables. **Due March 26th.**
- The final draft of the paper is due **April 30th.**
- An important component of research is the ability to effectively communicate your findings to an audience. As a result, students will present their final research note to the class during Week 16.

Midterm and Final Exam

This course includes two in-person exams: one during Week 7 and another during the finals period. Both exams are designed to assess your ability to perform and evaluate quantitative analysis, focusing on real-world applications of the concepts covered in class.

Activities and Grading

Activity	Quantity	%
Research Note: Research Question	1	5
Research Note: Data Description	1	10
Research Note: Final Draft	1	15
Research Note: Presentation	1	5
Take Home Exercises	4 Exercises each worth 5%	20
Midterm	1	15
Final	1	20
Class Participation		10
Total		100%

Distribution of Course Assignments, Their Quantity, and Contribution to Final Grade.

Grade Distribution and Letter Grade

Letter Grade	Grade Range
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	0-59

Grade Distribution and Letter Grade

Course Guidelines for the Use of Generative Artificial Intelligence

Generative AI tools like ChatGPT and Gemini can be an excellent resource for producing complex R code,

especially for those looking to achieve advanced functionality. However, relying on these tools too early in your learning process will limit your ability to understand how to effectively leverage and adapt R code for your specific needs. To illustrate the potential of these tools, we will occasionally use ChatGPT in class to generate advanced R code that would be challenging for beginners to create on their own.

For the R coding portions of take-home exercises, you are permitted to use ChatGPT to help identify and implement the correct code. This allowance applies only to take-home exercises and our in-class explorations of ChatGPT. However, you are not permitted to use ChatGPT to interpret your findings or the output of your code. Additionally, ChatGPT is not permitted for the R coding sessions on Coursera. These sessions are specifically designed to teach you the fundamental concepts of R and help you understand the mechanics of the code. This foundational knowledge will enable you to write more precise and effective prompts in the future and build the confidence needed to analyze and communicate your results.

Course Expectations & Policies

Attendance

- Students are responsible for any content they may have missed.

In Class Expectations

- You can use personal computers and tablets for class-related work. Phones are not allowed during class. Use of phones or computers for non-class related activities will deduct participation points.
- **Talking in Class:** I hope that we will have many enriching class discussions, and that you will feel welcome and excited to contribute. When you do contribute, please do so loudly so that others can hear you. Additionally, please be aware of how much you are speaking. I apply the “**stand up, step back**” guideline in all of my classes. This means that if you are not speaking, I may encourage you to contribute some comments, ideas, or suggestions (“stand up”), and if you are speaking a lot, I may encourage you to allow others the space to speak (“step back”). I will also not tolerate interruptions of any kind, particularly toward your fellow classmates. If you are nervous about speaking up in class, please come talk to me - we can brainstorm strategies to help you confidently contribute.

Emails

- I will respond to your emails as quickly as possible, but you should not expect an answer on the same day to an email sent on weekends or after 5:00 p.m. on any day. Importantly, I will not respond to emails regarding assignments in the 24-hour period before they are due or scheduled to take place. Please plan ahead, and I will be more than happy to assist.

Late Work

- Problem Sets: One 48-hour extension no questions asked. Additional late submissions will be penalized with 10% per day it is late. Once the extension is used, it cannot be applied to a different assignment.
- Final Research Note: deduct 10% per day it is late
- Unless the absence is excused, there will be no opportunity for makeup exams.

Academic Freedom

Academic freedom¹ is a cornerstone of the University. Academic freedom in its teaching aspect is fundamental for the protection of the rights of the teacher in teaching and of the student to freedom in learning.² Each faculty member is entitled to full freedom in the classroom discussing the subject that the faculty member teaches.³ The University of Texas at San Antonio will not penalize or discipline members of the faculty because of their exercise of academic freedom.

Along with this freedom comes responsibility. It is the responsibility of faculty members to ensure that topics taught are related to the classroom subject. Students should be free to take reasoned exception to the data or 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.⁴ It is not the proper role of the university or any outside agency to attempt to shield individuals from ideas and opinions they find unwelcome, disagreeable, or even deeply offensive.⁵ Engaging with new ideas and perspectives helps students grow intellectually and is beneficial to the educational process.

1. Statement adapted from Texas A&M University's [Syllabus Statement Regarding Academic Freedom](#)
2. 1940 Statement of Principles on Academic Freedom and Tenure
3. Board of Regents Rule 31004; HOP Policy 4.02
4. American Association of University Professors Joint Statement on Rights and Freedoms of Students
5. The Chicago Statement

Syllabus Changes

The syllabus is subject to change at the instructor's discretion. Any changes/corrections to the course materials, assignment dates, or other updates will be communicated to the students ahead of time. You are responsible for checking Canvas for corrections or updates to the syllabus.

Course Schedule

For a list of important university-wide dates, review [One Stop's academic calendar](#).

Week 1: Introduction

January 20th

- Reading on Canvas

Week 2: Measurement

January 27th

- Reading on Canvas
- Llaudet and Imai: 1-1.7
 - **Download RStudio and R (instructions posted on Canvas)**

Week 3: Describing One Variable

February 3rd

- Reading on Canvas
- Llaudet and Imai: 1.8-1.10; 3-3.4
- **Research Question Due Thursday at 11:59 P.M.**

Week 4: Describing Two Variables

February 10th

- Llaudet and Imai: 3.5-3.7
- Llaudet and Imai: 4-4.5
- **Assignment 1 Due Thursday at 11:59 P.M.**

Week 5: Prediction with Regression

February 17th

- Llaudet and Imai: 4.6-4.7; 4.9
- Reading on Canvas

Week 6: Evaluating Predictive Models

February 24th

- Weapons of Math Destruction
- **Assignment 2 Due Thursday at 11:59 P.M.**

Week 7: Midterm Week

March 3rd

- **Midterm**

Week 8: Spring Break No Class

Week 9: Causal Inference: The Experimental Ideal

March 17th

- Llaudet and Imai: 2-2.7

Week 10: Causal Inference: Controlling for Confounders

March 24th

- Llaudet and Imai: 5-5.4
- **Data Description Assignment Due Thursday at 11:59 P.M. (no extensions)**

Week 11: Probability

March 31st

- Llaudet and Imai: 6-6.8
- **Assignment 3 Due Thursday at 11:59 P.M.**

Week 12: Confidence Intervals

April 7th

- Llaudet and Imai: 7-7.2 (skip 7.2.2)

Week 13: Hypothesis Testing

April 14th

- Llaudet and Imai: 7.2.2, and 7.3-7.4

Week 14: Evaluating Quantitative Explanations

April 21st

- Readings on Canvas
- **Assignment 4 Due Thursday at 11:59 P.M.**

Week 15: Final Review and Reading Scholarly Work

April 28th

- Readings on Canvas
- **Final Research Note Due Thursday at 11:59 P.M. (no extensions)**

Week 16: Presenting Work

May 5th

- **Present Final Research Note**

Finals Week

May 12th

- Final

Essential Student Information

- **Important:** Bookmark and visit the [Common Syllabus Information webpage](#) to find important and valuable resources about counseling services, transitory/minor medical issues, supplemental instruction, tutoring services, academic success coaching, sexual harassment and sexual misconduct, campus safety and emergency preparedness, and the Roadrunner Creed.
- For technical requirements, support, and resources, visit [Academic Innovation's Student Technical Support](#) page.
- UT San Antonio provides reasonable accommodations to students via [Student Disability Services](#). For more details on eligibility, policies, and requirements, please visit www.utsa.edu/disability or call (210) 458-4157.
- Your well-being is important. In addition to academic growth, life as a student can include many emotional experiences and opportunities. Being mindful of your own needs and available support can provide you with the tools to successfully navigate these experiences. Student support for well-being, including [24/7 mental health services](#), can be accessed from the [Well-being at UT San Antonio](#) site for students. If needed, we can schedule a meeting, and I can connect you to resources. You are not alone; I am available to help you find resources that might best meet your needs.
- [Student Assistance Services \(SAS\)](#) is available to help you navigate academic and personal challenges. Campus Advocates in SAS are a central point of contact for students seeking clarity on university processes and policies. They also provide a direct connection to helpful resources and advocacy rooted in care. Campus Advocates offer confidential support and personalized guidance to help students succeed.
- The [Roadrunner Pantry](#) is here to help UT San Antonio students stay healthy and focused by providing free access to groceries, toiletries, and other essentials. With locations at the Main and Downtown campuses, the pantry is organized like a small store and offers items such as canned goods, snacks, and hygiene products. Students with a valid UTSA ID can visit the pantry to pick up what they need. Our goal is to ensure every Roadrunner feels supported and has the resources to succeed. If you're ever short on food or supplies, the Roadrunner Pantry is a welcoming space you can count on.
- Students at UT San Antonio are responsible for ensuring their work is consistent with UT San Antonio's standards for academic integrity. Students should review [Section 203 of the UT San Antonio Student Code of Conduct](#) for appropriate standards of academic integrity.
- UT San Antonio provides numerous services for students from counseling to tutoring to a food pantry. Visit [Student Affairs Programs and Services](#) and [Student Success](#) for more information.
- Visit the [UT San Antonio Libraries and Museums](#) site for access to journals, research tutorials, and

tech gear you can borrow and to find your department's librarian.

- Enroll in the [Roadrunner Success Playbook](#), an open-enrollment, self-paced, online hub in Canvas tailored to ensure you have the resources you need to excel at UT San Antonio.
- Follow [Digital Learning Netiquette](#) standards for your online communication activities.