

SOC-5811 Week 1: Introduction to the course

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9/3/2025

1/13



UNIVERSITY OF MINNESOTA

Driven to DiscoverSM



INTRODUCTION TO ME

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 - ▶ Post-doc at Princeton
 - ▶ Asst Prof at Minnesota
- ▶ 12 years of coding/stats experience



INTRODUCTION TO THE COURSE

- ▶ It's easy to feel totally overwhelmed and totally behind. Quantitative methods can seem like a huge list of rules that you just don't "get" - and have no hope of ever understanding. **This is not true.**



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- ▶ I still don't know things and get stuck. I will spend all day working on a problem and finish with the deflating feeling that I know that "shouldn't" have taken me all day.
- ▶ But, many things take me 15 minutes today that took me 3 hours last year, or all day three years ago.



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- ▶ In grad school and beyond, there can be enormous pressure to appear like you understand everything.
- ▶ Quantitative methods are particularly threatening in this way and can trigger a lot of stereotype threat.
- ▶ People may have also had access to very different opportunities around math/stats up to this point - or very negative experiences.
- ▶ **This course will be a space where it's very important to ask questions and be confused.**



WHY SHOULD WE UNDERSTAND QUANTITATIVE METHODS (AND CODING)?

- ▶ **There is some inherent value.** Quantitative methods can provide empirical, falsifiable facts about the social world (but not what those facts mean!); for example, how did different groups vote in 2024, and was this different from how those groups voted in 2020?



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- ▶ **Non-academic careers.**
- ▶ **Organizing/advocacy.**

QUANTITATIVE METHODS

- ▶ **Empiricism:** social theories imply empirical claims that are falsifiable.



QUANTITATIVE METHODS

- ▶ **Empiricism:** social theories imply empirical claims that are falsifiable.
- ▶ Data doesn't speak for itself; it must be carefully interpreted, summarize, and analyzed.



HOW DO WE UNDERSTAND QUANTITATIVE METHODS?

► **First principles** → **Heuristics**



HOW DO WE UNDERSTAND QUANTITATIVE METHODS?

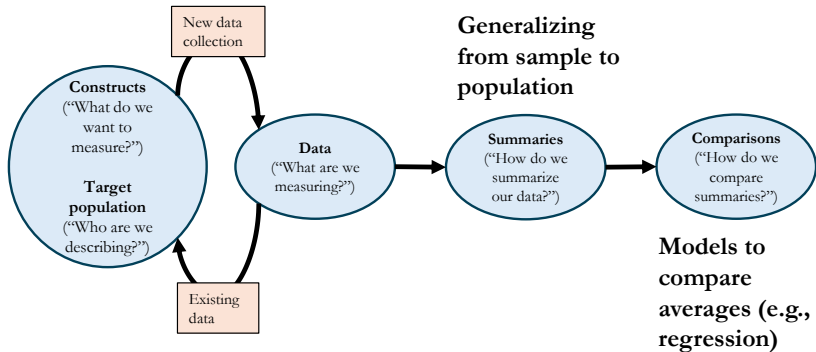
- ▶ **First principles** → **Heuristics**
- ▶ A critical skill is being able to know where your understanding is and where you want it to be.



HOW DO WE UNDERSTAND QUANTITATIVE METHODS?

- ▶ **First principles** → **Heuristics**
- ▶ A critical skill is being able to know where your understanding is and where you want it to be.
- ▶ It's very common to take a math/stats course that focuses a lot on first principles, say “why do I need to know this?”, and give up on any level of understanding.





STRUCTURE OF THE COURSE

- ▶ Lectures.



STRUCTURE OF THE COURSE

- ▶ Lectures.
- ▶ Lab.

STRUCTURE OF THE COURSE

- ▶ Lectures.
- ▶ Lab.
- ▶ Grading.



- ▶ Extensive use of R.

CODING

- ▶ Extensive use of R.
- ▶ We will review in class and lab.



- ▶ Extensive use of R.
- ▶ We will review in class and lab.
- ▶ Make use of free resources.

SYLLABUS

Week	Day	Topic	Reading, etc.
1	9/3	Introduction to the course	
2	9/8	No class!	
	9/10	Introduction to R and ggplot2	<u>ModernDive, Getting Started with Data in R 1.1-1.3</u> <u>R for Data Science, Data Visualization 1.1-1.2</u>
3	9/15	No class!	
	9/17	Quantitative research methods	<u>Causal Inference: The Mixtape, Chapter 2: Probability and Regression Review 2.1-2.12</u>
Part 1: Probability and regression			
4	9/22	Linear regression I	<u>Causal Inference: The Mixtape, Chapter 2: Probability and Regression Review: 2.13-2.25</u>
	9/24	Linear regression II	

https://github.com/ngraetz/soc5811

main
1 Branch
0 Tags

<> Code

Nick Graetz
update first three weeks
fce3d6 · 4 minutes ago
2 Commits

data	fix	2 months ago
figures	update first three weeks	4 minutes ago
images	update first three weeks	4 minutes ago
01_lecture.Rmd	update first three weeks	4 minutes ago
01_lecture.pdf	update first three weeks	4 minutes ago
02_lecture.Rmd	update first three weeks	4 minutes ago
02_lecture.pdf	update first three weeks	4 minutes ago
03_lecture.Rmd	update first three weeks	4 minutes ago
03_lecture.pdf	update first three weeks	4 minutes ago
Minnesota.tex	update first three weeks	4 minutes ago

About

All lectures and lab materials for SOC-5811.

- Activity
- 0 stars
- 0 watching
- 0 forks

Report repository

Releases

No releases published

Packages

No packages published

Languages

- TeX 100.0%

THIS COULD BE A WEIRD SEMESTER

- ▶ We may need to be flexible and adapt.

