PSCI 3300 Political Science Research Methods

A. Jordan Nafa

Introduction

this Course

Teaching Philosophy

Course Structure

Required Course Materials

Introduction to Quantitative Political Research

A. Jordan Nafa

University of North Texas Department of Political Science

August 30th, 2022

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Introduction

Why Take

Teaching Philosophy

Course

Structur

Course Materials • Quantitative Social Science is the use of quantitative data to study, analyze, or predict social and political phenomena

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Course Materials

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- Outside of academic settings, this is more commonly known as *data* science

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 - The logic of quantitative social inquiry we will cover in this class is applied in academic social sciences, government, non-profits, and in the private sector

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- This course introduces students to the logic of causal inference and the tools social scientists use to study social, political, and economic phenomena

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- This course introduces students to the logic of causal inference and the tools social scientists use to study social, political, and economic phenomena
 - We will focus primarily on quantitative approaches to the study of politics with an emphasis on application, causal reasoning, and prediction

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Required Course Materials • PSCI 3300 is a required course for political science majors so you'll have to take it at some point

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- The skills taught in this course are standard across an increasing number of industries and fields research

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 - Contemporary political science is a primarily quantitative field, so understanding the tools of the trade will help you understand and critique the things you read in your other classes

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- I will not require you to laugh at my jokes

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Required Course Materials • Math for the sake of math is an unfortunately common but largely unproductive way to teach quantitative social science

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- Though there is some basic statistics required, that means less of this

$$Normal(y|\mu,\sigma) = \frac{1}{\sqrt{2\pi}\sigma} \exp\left(-\frac{1}{2} \left(\frac{y-\mu}{\sigma}\right)^2\right)$$

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Required Course • And more hands-on stuff like this

Simulate 10,000 random draws from a standard normal distribution

std norm <- rnorm(n = 10e3, mean = 0, sd = 1)

```
## Print a summary
summary(std_norm)
```

```
Min. 1st Qu. Median Mean 3rd Qu. Max. -3.514303 -0.679216 -0.035599 -0.009108 0.671100 4.092691
```

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Required Course Materials • Class Meetings

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Required Course Materials Class Meetings

 \bullet Tuesday/Thursday from 9:30 AM - 10:50 AM

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- Tuesday/Thursday from 9:30 AM 10:50 AM
- Part of our course time will be spent on lecture and answering questions and the other half will be spent working with data in R

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• Problem Sets

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• Problem Sets

• To get hands on experience writing R code, manipulating and modeling data, and thinking through the logic of cause and effect, you will complete a series of problem sets that ask you to apply the topics we cover in class using real data.

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• Problem Sets

- To get hands on experience writing R code, manipulating and modeling data, and thinking through the logic of cause and effect, you will complete a series of problem sets that ask you to apply the topics we cover in class using real data.
- You must demonstrate that you made a good faith effort to work through each question in order to receive any partial credit for incorrect answers

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Required Course Materials • There is one required textbook for this course which can be purchased from the UNT campus bookstore or Amazon

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- There is one required textbook for this course which can be purchased from the UNT campus bookstore or Amazon
 - Ethan Bueno de Mesquita and Anthony Fowler. Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis.

 Princeton University Press, 2021. ISBN: 9780691214351

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 - Andrew Gelman, Jennifer Hill, and Aki Vehtari. Regression and Other Stories. Cambridge University Press, 2021. ISBN: 9781107676510

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- Although it is not required, I also recommend obtaining a copy of
 - Andrew Gelman, Jennifer Hill, and Aki Vehtari. Regression and Other Stories. Cambridge University Press, 2021. ISBN: 9781107676510
- All additional readings for the course and various instructional resources for applied statistics and programming in R are provided via the course's Canvas page

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Required Course Materials • To complete the requirements for this course you will need access to a laptop or desktop computer with a stable internet connection

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- To complete the requirements for this course you will need access to a laptop or desktop computer with a stable internet connection
- If you do not have access to a personal computer that meets the minimum requirements necessary to run R, you can access both R and RStudio from computers on the UNT campus

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- The computers in the political science lab in Wooten Hall 173 should have the most recent version of R, RStudio, and RTools

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- The computers in the political science lab in Wooten Hall 173 should have the most recent version of R, RStudio, and RTools
- If you expect to have difficulty meeting the technical requirements for this course you need to let me know immediately