Intro to Quantitative Political Analysis, Fall 2017

Description

This course is an introduction to the use of statistical analysis in the study of political science. There are three goals of the course:

1) To teach fundamental statistical skills necessary for future independent research
2) To help students develop ideas for testing their own quantitative research questions
3) To teach students how to interpret and critique existing statistical research

The course begins with a brief review of the basic elements of scientific thinking and their application to the study of politics. Next students will be introduced to probability theory and statistics with a view to testing hypotheses about political events. Students will be taught through examples from existing work of how quantitative techniques can be used to test theories, and help in the formulation and evaluation of theories.

The course is intended for students who have limited or no background in quantitative analysis. As such, we won’t be able to spend too much time on using statistical programs (such as Stata or R). Instead this is something students really get to delve into in the second semester. However, this course does teach students the necessary skills to be able to understand what they will be doing with a statistical program and how to interpret the research of other scholars.

Lastly, students should not worry if they have struggled with math in the past. Again, no prior knowledge is assumed, and everyone in the program is more than capable of learning all the math skills necessary for this course.

Requirements

The course consists of four components: 5 homework assignments (30%), class participation (10%), a midterm (25%), and a final exam (35%).

The homework, midterm and exams will include traditional statistics questions that one would find across introductory statistics courses as well as questions on interpreting
existing research and developing future research.

**Recommended Texts:**

I don’t require a text and I will provide notes in class. For a quantitative course, students need to learn to look up questions as they go along. However, for students who want a reference with straightforward examples, I recommend the Wonnacott text. The Angrist and Pischke text is a great book for giving a narrative overview of how to conduct your own research. I highly recommend it, but it isn’t essential for the course.


There will be required articles for the homework and class, but those can be found on Google Scholar.

**Schedule and Course Outline**

September 12
Intro to Statistics
Descriptive Statistics

September 19
Introduction to Probability

September 26
Probability Distributions
and the Binomial Distribution

October 3
Normal Distributions
and Sampling Distributions
and existing literature

October 16
Hypothesis Testing- Z tests

October 23
Hypothesis Testing- Z tests
And existing literature review
October 30
T-distribution and midterm review

November 6
Midterm Exam

November 13
Proportions
and Determining Sample Size

November 20
Correlation and Regression

November 27
Regressions from Existing Literature

December 4
Regressions from Existing Literature

December 11
Regression and final review

December 12
Final Exam