PSC 200

Applied Data Analysis

Spring 2018
14:00-14:50 MWF
Gavett 208

Professor:
Kevin A. Clarke
Harkness 317
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PURPOSE

This course introduces students to data analysis, statistical inference, and research design relevant to political science research. Topics include variable measurement, descriptive statistics, confidence intervals, hypothesis tests, correlation, and regression analysis.

PREREQUISITES

Working knowledge of high school algebra is the only course prerequisite. Note that this course fulfills the Political Science department's techniques of analysis requirement.

COURSE REQUIREMENTS

Evaluation is based on problem sets (25% of your grade) and three midterm exams (25% of your grade each). The exams are given as scheduled and are not given early — make any travel plans accordingly. You must take all three exams to pass the course.

The lowest homework grade will be dropped when calculating the final course grade to allow for illness or other such unforeseen events. That said, you are strongly encouraged to complete ALL homework assignments. Students must deliver their homework in hardcopy to the TA. Late assignments will be penalized one half-grade (e.g., B to B-) for each day they are late. Homeworks more than seven days late will receive a grade of zero. Finally, while you are encouraged to study together and to learn the software together, all assignments are to be completed individually.

A web page for this course can be found here:

`http://https://www.kevinclarke.org/psc-200.html`

ACADEMIC INTEGRITY

Be familiar with the University's policies on academic integrity and disciplinary action (`http://www.rochester.edu/College/CCAS/AdviserHandbook/AcadHonesty.html`). Violators of University regulations on academic integrity will be dealt with severely, which means that your grade will suffer, and I will forward your case to the Chair of the College Board on Academic Honesty.

Remember that the same technology that has made plagiarism easier to accomplish has also made it easier to detect. If you do not cite a source, it is plagiarism. If you do cite it, it is scholarship.

TEXT

David Diez, Christopher Barr, and Mine Cetinkaya-Rundel (2016). *OpenIntro Statistics*, 3rd ed.

COMPUTING

Students will learn the R program for statistical analysis. The Friday sessions are devoted solely to computing.

COURSE SCHEDULE

January 17-19: Introduction

- None (first day of class)

January 22-January 26: Data

- Chapter 1

January 29-February 2: Probability

- Chapter 2

February 5-9: Distributions 1

- Chapter 3

February 12-16: Distributions 2

- Chapter 3

February 19-February 23: Review and Exam 1

- None

February 26-March 2: Inference 1

- Chapter 4

March 5-9: Inference 2

- Chapter 4

March 12-16: Spring Break

- None

March 19-23: Inference (numerical)

- Chapter 5

March 26-30: Review and Exam 2

- None

April 2-6: Inference (categorial)

- Chapter 6

April 9-13: Linear regression 1

- Chapter 7

April 16-20: Linear regression 2

- Chapter 7

April 23-27: Multiple regression and Review

- Chapter 8

April 30: Exam 3

- None