PSC 200: Applied Data Analysis

Room: Gavet 202
Days and Time: MW, 11:50-12:40

Instructor: Sergio Montero
    Office: T, 2:00-3:00, Harkness Hall 320
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Teaching Assistants: Aram Kim, Harkness 304, akim47@ur.rochester.edu
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Course Description: Data analysis has become a key part of many fields including politics, business, law, and public policy. This course covers the fundamentals of data analysis, giving students the necessary statistical skills to understand and critically analyze contemporary political, legal, and policy puzzles. Lectures will focus on the theory and practice of quantitative analysis, and weekly lab sessions will guide students through the particulars of statistical software.

Prerequisites: No prior knowledge of statistics or data analysis is required. 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.

Grading: Evaluation is based on problem sets (40%), a midterm (20%), and a final (40%).

The lowest homework grade will be dropped when calculating the final course grade to allow for illness or other unforeseen events. Late assignments will be penalized one half-grade (e.g., B to B-) for each day they are late. Homeworks more than 7 days late will not be accepted.

Collaboration Policy: While collaboration on problem sets is encouraged, all assignments must be completed individually.

Academic Honesty: Please be familiar with the University's policies on academic integrity and disciplinary action (http://www.rochester.edu/college/honesty/).

Text: Agresti, Alan and Barbara Finlay (2009). *Statistical Methods for the Social Sciences*, 4th ed. Pearson.

Computing: Students will learn the R program for statistical analysis. A computing lab will be held on F 2:00-3:15 in either Goergen 102 or Harkness 114.

Course Schedule:

August 31, September 5: No class.

September 7: Introduction.

September 12,14: Probability, Sampling, and Measurement (Agresti & Finlay, chapter 2).

September 19,21: Descriptive Statistics (Agresti & Finlay, chapter 3).

September 26,28, October 3: Probability Distributions (Agresti & Finlay, chapter 4).

October 5: Midterm.

October 10,12,19: Estimation (Agresti & Finlay, chapter 5).

October 17: No class (fall term break).

October 24,26,31: Hypothesis Tests (Agresti & Finlay, chapter 6).

November 2,7: Comparison of Two Groups (Agresti & Finlay, chapter 7).

November 9,14: Categorical Variables (Agresti & Finlay, chapter 8).

November 16,21: Regression (Agresti & Finlay, chapter 9).

November 23: No class (Thanksgiving break).

November 28,30: Multivariate Relationships (Agresti & Finlay, chapter 10).

December 5,7,12: Multiple Regression (Agresti & Finlay, chapter 11).

Final exam date TBD.