

POL 51: Scientific Study of Politics

Summer II, 2013

Andrey Tomashevskiy
MTWTh: 4.10-5.50pm
Office Hours: W 2-4pm and by appointment
Email: atomashevskiy@ucdavis.edu
Office: Kerr Hall 686

Course Description

This course is designed to introduce students to principles of research in political science. In the course of the class, we will cover applications of the scientific method to politics, the design of theories and hypotheses and the use of techniques for analysis of political data. This course will provide students with the necessary skills to understand and evaluate political science research as well as produce research on their own. Students will not only be provided with skills for evaluating and producing research but will also learn tools for data analysis that are increasingly demanded in the workplace and in academic research.

This is an applied course and no math knowledge beyond high school algebra is required. The course is broadly divided into two parts. The first part of the course will cover issues in research design. We will cover concepts in sample selection, experimental design, hypothesis tests and concept measurement. This part of the class is designed to introduce students to basic concepts in scientific research and present issues that are critical for evaluating research. Students will be provided with tools to evaluate causal relationship and develop research designs. The second part of the course will focus on statistical techniques for analyzing data. This will include descriptive statistics, statistical graphs, test of bivariate relationships and linear regression models. By the end of this part of the class students should be able to perform basic data analysis using graphical and statistical techniques.

POL 51 is required for all political science majors but is also useful for anyone wishing to learn how to conduct or evaluate research. The tools and techniques learned in this class can be used across the social sciences.

Required Text

Paul Kellstedt and Guy Whitten *The Fundamental of Political Science Research* Cambridge University Press 2009

Course Requirements

Grades in the course will be based on the following items:

1. Problem Set 1: 15%
2. Midterm: 30%

3. Problem Set 2: 15%
4. Final: 40%

The midterm and final will consist of a mix of short answer and multiple choice questions. Students can use calculators for the exam but cannot use phones as calculators. Problem sets will consist of questions designed to reinforce material covered in lecture. Problem set material will be directly relevant for the midterm and final. Late problem sets will be marked down a letter grade for every day late. Problem sets handed in more than three calendar days late will receive a grade of 0. Cases of plagiarism or cheating will be referred to Student Judicial Affairs.

Topics and Course Schedule

August 5: Introduction, Syllabus Review

August 6: The Science in Political Science

K&W: Chap 1

August 7: Theories and Hypotheses

K&W: Chap 2

August 8: Causality

K&W: Chap 3

James Fearon 1991 “Counterfactuals and hypothesis testing in political science”

August 12: Research Designs

K&W: Chap 4

August 13: Sampling and Measurement

K&W: Chap 5

Barbara Geddes 1990 “How the cases you choose affect the answers you get: Selection bias in comparative politics”

August 14: Descriptive Statistics

K&W: Chap 6

August 15: Data Visualization

August 19: Probability

August 20: Distributions and Statistical Inference (Problem Set 1 due)

K&W: Chap 7

August 21: Review

August 22: Midterm

August 26: Bivariate Hypothesis Tests: Z-tests, p values

K&W: Chap 8

August 27: Bivariate Hypothesis Tests: Chi-squared Tests, Difference of Means

August 28: No Class

August 29: No Class

September 2: Labor Day

September 3: Correlation

September 4: Ordinary Least Squares, Bivariate Regression

K&W: Chap 9

September 5: Bivariate Regression continued

September 9: Multivariate Regression (Problem Set 2 due)

K&W: Chap 10

September 10: Multivariate Regression continued

K&W: Chap 11

September 11: Review

September 12: Final