

Political Science 6001
Quantitative Analysis in Political Science

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Hours: 2:00-4:00 T & Th and by appointment
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Spring Semester 2006
T & Th 12:25-1:45
OSH 132

This course is an introduction to the use of quantitative analysis in political science. In this course we will review basic elements of research design, cover some basic statistical concepts, and explain the application of quantitative techniques that are widely used to analyze data in the social sciences. There are no prerequisites for this course, other than graduate standing. As such, previous course work in research methods or statistics is not required, but a knowledge of basic mathematics and a willingness to learn are needed.

This course will involve in-class exposition of basic statistics, calculation of some statistics by hand, the use of computer software to obtain statistical results, and the interpretation of statistical results. By the end of the course, all students should:

- be able to calculate and interpret basic univariate and bivariate descriptive statistics;
- understand when to use and how to interpret basic inferential statistics;
- understand the meaning of the statistical concepts of association and control;
- understand the assumptions, uses, and interpretation of quantitative techniques such as analysis of variance and linear regression;
- be able to analyze data using computer software;
- be able to present the results of quantitative analysis appropriately and effectively in written form.

Required Text

Fox, William. 2003. Social Statistics. 4th ed. Belmont, CA: Wadsworth.

The software and data needed for this course are included with the textbook. This program, MicroCase, can be used on a PC running the Windows operating system. A version of this software is also available in the PC labs located in OSH 273 and 277. You will also need to have a hand calculator for exercises and examinations.

Course Requirements

All students are expected to attend class and complete the assigned reading. Course grades will be based upon the following requirements:

- (1) exercises (20%);
- (2) midterm examination (15%);
- (3) a short methodological assessment paper (20%);
- (4) a statistical analysis paper (25%);
- (5) final examination (20%).

Eight exercises will be assigned. Please note that the course outline indicates when the exercises will be given out, not when they are due. The due dates for the exercises will be indicated on the exercise. Detailed information on the two paper assignments will be provided in class. The final examination will be given as a take-home exam.

COURSE OUTLINE

Week 1, January 10 and 12, Introduction and Research Design

Week 2, January 17 and 19, Measurement and Operationalization
Read: Fox, Chapter 1

Week 3, January 24 and 26, Descriptive Statistics
Read: Fox, Chapters 2, 3, and 4
*Exercise 1 assigned

Week 4, January 31 and February 2, Probability and Sampling
Read: Royce Singleton and Bruce Straits. 1999. Approaches to Social Research. 3rd ed. New York: Oxford University Press. Chapter 6, "Sampling," pp. 134-176. [On reserve at the Marriott Library]
*Exercise 2 assigned

Week 5, February 7 and 9, Hypothesis Testing: Difference of Means
Read: Fox, Chapter 8
*Exercise 3 assigned

Week 6, February 14 and 16, Contingency Tables and the Chi-square Test
Read: Fox, Chapters 5 and 6
*Exercise 4 assigned

Week 7, February 21 and 23, Measures of Association for Tables
Read: Fox, Chapter 7
*Exercise 5 assigned

Week 8, February 28 and March 2, Contingency Tables and Control Variables
Read: Fox, Chapter 11

Week 9, March 7 and 9, Review and Midterm Exam
**** Note: Thursday, March 9: Midterm Examination ****

Week 10, **** Spring Break ****

Week 11, March 21 and 23, Analysis of Variance
Read: Fox, Chapter 9
*Exercise 6 assigned
**** Thursday, March 23, Proposal due for statistical analysis paper ****

Week 12, March 28 and 30, Correlation and Bivariate Linear Regression
Read: Fox, Chapter 10

Week 13, April 4 and 8, Bivariate Regression, continued
*Exercise 7 assigned

Week 14, April 11 and 13, Multiple Regression
Read: Fox, Chapter 12
*Exercise 8 assigned

Week 15, April 18 and 20, Multiple Regression, continued

Week 16, April 25, Summary and Review

***** Papers Due: Tuesday, April 25*****

*****Final Examination: Due by Wednesday, May 3, 12:00 noon*****

Statement on Academic Honesty: I expect academic honesty in this course. This statement means, among other things, that the exercises, papers, and examinations you submit in this course must be your own. Any work you submit should be the product of your individual effort and not the work of others. Work submitted for this course must not have been submitted in a previous course nor may it be submitted in any course being taken concurrently without the knowledge and approval of all instructors concerned. An act of academic dishonesty is a violation of the university's regulations regarding student conduct. As such, an act of academic dishonesty may result in a failing grade for the course and may result in a recommendation to university officials for additional disciplinary action. The following definition is from the university's Code of Student Rights and Responsibilities (Policy 8-10, rev 3, July 14, 1997): "'Academic dishonesty' includes, but is not limited to, cheating, misrepresenting one's work, inappropriately collaborating, plagiarism, and fabrication or falsification of information It also includes facilitating academic dishonesty by intentionally helping or attempting to help another to commit an act of academic dishonesty." Definitions of these terms as well as information regarding your rights and responsibilities are available in the university's policies and procedures manual < <http://www.admin.utah.edu/ppmanual/8/8-10.html> >.

Equal Access: The Department of Political Science seeks to provide equal access to its programs, services, and activities for people with disabilities. If you need accommodations in this class, reasonable prior notice needs to be given to the instructor and the Center for Disability Services. For information or to arrange for accommodation, please contact the Center for Disability Services, 162 Olpin Union Building, 581-5020, < <http://disability.utah.edu/> >.

Schedule Changes: The schedule of examinations, assignments, or due dates may need to be changed based upon events during the semester. If changes need to be made, advance notification will be made in class.

Grading Distribution: The following distribution will be used in this course.

A	94% and above
A-	90% - 93%
B+	88% - 89%
B	83% - 87%
B-	80% - 82%
C+	78% - 79%
C	73% - 77%
C-	70% - 72%
D+	68% - 69%
D	63% - 67%
D-	60% - 62%
E	59% and below