

Political Science 5001
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 2007
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, learn some basic statistical concepts, and explain the application of quantitative techniques that are widely used in the social sciences. The prerequisite for this course is Political Science 3001 or an equivalent course. For students pursuing a Bachelor of Science degree, this course meets the requirement for a quantitatively intensive (QI) class.

The content of this course includes the 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 fundamental statistical concepts such as 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 in tables and graphs and to interpret those results 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. Although an alternate version of the MicroCase software is available in the PC labs located in OSH 273 and 277, you will need the software and data that come with this text to complete the exercises for the course. You should 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 (200 points);
- (2) midterm examination (150 points);
- (3) statistical analysis paper (250 points); and,
- (4) final examination (200 points).

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 statistical analysis paper will be provided in class. The final examination will be given as a take-home exam.

COURSE OUTLINE

Week 1, January 9 and 11, Introduction and Research Design

Week 2, January 16 and 18, Measurement and Operationalization
Read: Fox, Chapter 1

Week 3, January 23 and 25, Descriptive Statistics
Read: Fox, Chapters 2, 3, and 4
*Exercise 1 assigned

Week 4, January 30 and February 1, 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 6 and 8, Hypothesis Testing: Difference of Means
Read: Fox, Chapter 8
*Exercise 3 assigned

Week 6, February 13 and 15, Contingency Tables and the Chi-square Test
Read: Fox, Chapters 5 and 6
*Exercise 4 assigned

Week 7, February 20 and 22, Measures of Association for Tables
Read: Fox, Chapter 7
*Exercise 5 assigned

Week 8, February 27 and March 1, Contingency Tables and Control Variables
Read: Fox, Chapter 11

Week 9, March 6, **Midterm Examination**
**** Note: No class Thursday, March 8 due to WPSA ****

Week 10, March 13 and 15, Analysis of Variance
Read: Fox, Chapter 9
*Exercise 6 assigned

Week 11, **** Spring Break ****

Week 12, March 27 and 29, Correlation and Bivariate Linear Regression
Read: Fox, Chapter 10

Week 13, April 3 and 5, Bivariate Regression, continued
*Exercise 7 assigned
**** Tuesday, April 3, Proposal due for statistical analysis paper ****

Week 14, April 10 and 12, Multiple Regression
Read: Fox, Chapter 12
*Exercise 8 assigned

Week 15, April 17 and 19, Multiple Regression, continued

Week 16, April 24, Summary and Review

***** Analysis Paper Due: Tuesday, April 24*****

*****Final Examination: Due by Wednesday, May 2, 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 misconduct is a violation of the university's regulations regarding student conduct. As such, an act of academic misconduct 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 6, February 2006): "Academic misconduct' 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 misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct." Definitions of these terms as well as information regarding your rights and responsibilities as a student 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