

Course Syllabus

Introduction to Quantitative Methods

Political Science 323

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Office Hours: Monday 9-11 am and by appointment

Course Overview:

This is an introduction to research methodology and quantitative analysis for social scientists. This class will introduce students to social scientific inquiry and basic statistical tools used to study politics. Students will learn to study politics with the help of measurement, descriptive analysis, correlation, graphical analysis, hypothesis testing, confidence intervals, analysis of variance, and regression analysis. The course will include classroom lectures and computer lab-time to enable students to work hands-on with datasets. Basic math skills (algebra) are recommended.

Course Materials:

There is one required text, which is available at the campus bookstore and on-line, that we will draw from throughout the semester. I have also listed some recommended texts that I encourage you to use to supplement the primary text.

Required Text:

- Agresti, Alan and Barbara Finley. 1997. *Statistical Methods for the Social Sciences, 3rd Edition*. Upper Saddle River, NJ: Prentice Hall.

Recommended Readings:

- Wonnacott, Thomas and Ronald Wonnacott. 1990. *Introductory Statistics, 5th Edition*. New York, NY: John Wiley and Sons.
- Gravetter, Frederick and Larry Wallnau. 2004. *Statistics for the Behavioral Sciences, 6th Edition*. Belmont, CA: Thomson Wadsworth.
- Knoke, David, George W. Bohrnstedt and Alisa Potter Mee. 2002. *Statistics for Social Data Analysis, 4th Edition*. Itasca, IL: F.E. Peacock.
- DeGroot, Morris and Mark J. Schervish. 2002. *Probability and Statistics, 3rd Edition*. Boston, MA: Addison Wesley.

Course Requirements and Evaluation:

Students are expected to attend lectures, do all readings prior to class meetings, and complete homework assignments on time.

Student evaluations will be based on homework assignments, a final project, and examinations. Students will be given weekly homework assignments, which will be given out at the end of class. Unless there is prior announcement, these assignments will be due at the beginning of the following week's class. Homeworks will comprise 25% of the final grade.

Students will also complete a final group project. This project will consist of an original research paper where students will pose a question (or set of questions), collect relevant data, perform analyses, and write-up their findings. Two to three people will comprise a group. More information regarding the details of the project will be given at the midpoint of the semester. The project grade will count for 20% of the final course grade.

There will be three mid-term exams (as noted on the schedule). These typically will be graded and returned by the beginning of the following week's class. Each midterm will make up 10% of the final course grade. There will also be final exam scheduled on the last day of class that will count for 25% of the final course grade.

Grades will be assigned as follows: 90-100% A, 80-90% B, 70-80% C, 60-70% D, 0-60% F. Pluses or minuses will be given for scores within two points of a cutoff, and by discretion of the instructor.

Late assignments will not be accepted, and no incompletes will be assigned. Failure to meet the requirements of the course will result in a failing grade. If a student needs to miss an examination, prior arrangements should be made with the instructor.

Academic Integrity:

No form of academic dishonesty will be tolerated in this course. Discussion of course material with fellow students is a valuable learning technique and is strongly encouraged. However, copying or plagiarizing another person's work or cheating on an assignment or an examination is unacceptable. Anyone found guilty of cheating, plagiarism or of any other violation of academic integrity will automatically receive a grade of 0.0 for the assignment or exam. Depending on the circumstances, a course grade of 0.0 may be given with the matter referred to the University Dean for further action.

Schedule of Topics and Readings:

<u>Date:</u>	<u>Topic:</u>	<u>Readings:</u>
1/20/2005	Introduction	
1/27/2005	Measurement and Sampling	Sections 1.1-1.4, 2.1-2.5, 3.1
2/3/2005	Description, Central Tendency, and Variation	Sections 3.2-3.6
2/10/2005	Probability Distributions and Inference	Sections 4.1-4.6

2/17/2005	<i>Exam One</i> (in class)	
2/24/2005	Estimation, Proportions, and Sample size	Sections 5.1-5.4, 5.6
3/3/2005	Significance testing and Errors	Sections 6.1-6.4
3/10/2005	<i>Spring Break</i> (no class)	
3/17/2005	Small Sample Inference and Review	Sections 6.5-6.6, 6.8
3/24/2005	<i>Exam Two</i> (in class)	
3/31/2005	Comparing Means and Proportions and Small-Sample Comparisons	Sections 7.1-7.6, 12.1
4/7/2005	Tables, Categorical Variables, and Linear Relationships	Sections 8.1-8.3, 9.1-9.2
4/14/2005	Simple Linear Regression and Inference	Sections 9.3-9.6
4/21/2005	<i>Exam Three</i> (in class)	
4/28/2005	Multiple Regression	Sections 10.1-10.5, 11.1-11.6, 11.9
5/5/2005	Review and Catch-up	
5/12/2005	<i>Final Examination</i> (in class) and project due date	

The instructor reserves the right to alter the syllabus in a timely fashion.