

Spring 2008

Pol Sci 0825: Quantitative Methods
Department of Political Science
Tuesday/Thursday 10:10am-11:30am
7 Anderson Lecture Halls

Professor: Ryan J. Vander Wielen
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Office Hours: Tuesday/Thursday 2-3:30 pm
Teaching Assistant: John Cryderman

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 the basic statistical tools used to study social phenomena. Students will learn to analyze substantive questions using descriptive analysis, correlation, graphical analysis, hypothesis testing, confidence intervals, analysis of variance, and regression analysis. The course will consist of a combination of classroom lectures and computer lab-sessions, to acquaint students with the collection, management, and analysis of data using computer software. Basic math skills (algebra) are recommended but not required.

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:

- DeGroot, Morris and Mark J. Schervish. 2002. *Probability and Statistics, 3rd Edition*. Boston, MA: Addison Wesley.
- Gravetter, Frederick and Larry Wallnau. 2006. *Statistics for the Behavioral Sciences, 7th Edition*. Belmont, CA: Thomson Wadsworth.
- Joslyn, Richard, Janet Johnson, and Hank Reynolds. 2001. *Political Science Research Methods, 4th Edition*. Washington, D.C.: Congressional Quarterly Press.
- Knoke, David, George W. Bohrnstedt and Alisa Potter Mee. 2002. *Statistics for Social Data Analysis, 4th Edition*. Itasca, IL: F.E. Peacock.
- Wonnacott, Thomas and Ronald Wonnacott. 1990. *Introductory Statistics, 5th Edition*. New York, NY: John Wiley and Sons.

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 on Tuesdays. 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 students 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 a final exam scheduled for May 13, 2008 (9-11 am) that will count for 25% of the final course grade.

Final letter grades for the course will be assigned as follows:

92.5% ≤ A	80% – 82.49% = B-	67.5% – 69.99% = D+
90.0% – 92.49% = A-	77.5% – 79.99% = C+	62.5% – 67.49% = D
87.5% – 89.99% = B+	72.5% – 77.49% = C	60% – 62.49% = D-
82.5% – 87.49% = B	70% – 72.49% = C-	59.99% ≥ F

Course Policies:

Assignments are to be handed in at the beginning of class. If you are unable to attend class, you remain responsible for handing in assignments before the time that class begins. Only under extraordinary circumstances, in which students have made previous arrangements with me, will I accept late work. If previous arrangements are not made, students will receive no credit for late assignments. Similarly, students will not be granted additional time to prepare for exams, except where there is compelling reason for doing so. A request for an extension must be arranged in advance, and must be accompanied by a recommendation from a recognized authority (i.e., physician or an academic dean). Grades of incompletes will only be granted for the most severe circumstances (i.e., death in family, health complications, etc.) that prevent students from completing the course as scheduled. A request for a grade of incomplete must be supported with a recommendation from a recognized authority, as in the case of a request for an extension. In addition, it will not be possible for students to submit extra assignments intended to offset missing work or work on which students performed poorly (including exams).

Contacting the Instructor:

Students are encouraged to use office hours. If students are unable to attend office hours, but would like to meet with me, please contact me via email to arrange an appointment. I am typically quick to respond to such emails. I, unfortunately, cannot guarantee that I will be able to meet with students that come to my office without first scheduling a time to see me.

Disability Policy:

This course is open to all students who meet the academic requirements for participation. Any student who has a need for accommodation based on the impact of a disability should contact the instructor privately to discuss the specific situation as soon as possible. Contact Disability Resources and Services at 215-204-1280 in 100 Ritter Annex to coordinate reasonable accommodations for students with documents disabilities.

Statement of Academic Freedom:

Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has adopted a policy on Student and Faculty Academic Rights and Responsibilities (Policy #03.70.02) which can be accessed through the following link: http://policies.temple.edu/getdoc.asp?policy_no=.03.70.02.

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>
1/22	Introduction	
1/24	Measurement	Sections 1.1-1.4, 2.1-2.2
1/29	Sampling	Sections 2.3-2.5, 3.1
1/31	Description, Central Tendency, and Variation	Sections 3.2-3.6
2/5	Probability Distributions	Sections 4.1-4.2
2/7	Inference	Sections 4.3-4.6
2/12	<i>Exam One</i> (in class)	
2/14	Estimation	Sections 5.1-5.2
2/19	Proportions and Sample size	Sections 5.3-5.4, 5.6

2/21	Significance testing	Sections 6.1-6.2
2/26	Errors	Sections 6.3-6.4
2/28	Small Sample Inference	Sections 6.5-6.6, 6.8
3/4	<i>Exam Two</i> (in class)	
3/6	Comparing Means and Proportions	Sections 7.1-7.3, 12.1
3/11	<i>Spring Break</i> (no class)	
3/13	<i>Spring Break</i> (no class)	
3/18	Small-Sample Comparisons	Sections 7.4-7.6
3/20	Tables and Categorical Variables	Sections 8.1-8.3
3/25	Linear Relationships	Sections 9.1-9.2
3/27	Simple Linear Regression	Sections 9.3-9.4
4/8	Inference for Linear Regression	Section 9.5
4/10	Assumptions and Model Fit	Section 9.6
4/15	<i>Exam Three</i> (in class)	
4/17	Multiple Regression I	Sections 10.1-10.5, 11.1
4/22	Multiple Regression II	Sections 11.2-11.6, 11.9
4/24	Logistic Regression	Sections 15.1-15.3
4/29	Review and Catch-up <i>*Final Project Due*</i>	
5/13 (9-11 am)	<i>Final Exam</i>	

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