

**ADVANCED POLITICAL SCIENCE METHODS
SYLLABUS, FALL 2007**

Course: POLS 398-001 Instructor: Dr. Ross Burkhart, 426-3280
Class Time: 1:40-2:55 TTh Office: PAAW 127-A, rburkha@boisestate.edu
Classroom/Lab: ILC 403/PAAW 125 Office Hours: 3:00-4:30 T-Th, 9:00-10:30 F, or by appt.

Course Description

This course is designated as the second in a two-course sequence on research methods in political science. All political science majors are required to take the two-course sequence. This course may fill requirements in other majors as well.

Political scientists seek to explain and predict political behavior. One of the most important tools that political scientists can employ to explain and predict political behavior is multiple regression analysis. Our work this semester will be oriented around mastering the technique of multiple regression analysis, while fully considering its advantages and disadvantages toward advancing the knowledge base of political science.

Students are responsible for any changes to this syllabus.

Required Books and Materials

Pollock, Philip H., III. 2005. *The Essentials of Political Analysis*. 2nd ed. Washington DC: CQ Press. (AKA "Pollock 1")

Pollock, Philip H., III. 2005. *An SPSS Companion to Political Analysis*. 2nd ed. Washington DC: CQ Press. (AKA "Pollock 2")

SPSS FOR WINDOWS will be used for the statistical analysis performed in this course. This is the same statistical package used in POLS 298 (Introduction to Political Inquiry), thus students in POLS 398 should be familiar with its use. Students will also need a floppy disk, zip disk, flash memory, or CD in order to save datasets and analyses. Students will also need hand calculators from time to time.

Learning Objectives

Building on the skills gained in POLS 298 (Introduction to Political Inquiry), students in POLS 398 will learn research design and critical thinking skills, emphasizing the statistical techniques used to conduct multiple regression analysis. By the end of the semester, students will be able to:

- (1) analyze quantitative political science research datasets,
- (2) use a computer statistical software package, and
- (3) create a research report that answers a research question in political science.

Grade Assessment of Learning Objectives (Summary)

Students will complete the following assignments based on readings and classroom discussion:

- homework problems and lab exercises (60 points total)
- five quizzes, lowest quiz grade dropped (40 points total)
- three examinations (300 points total)

Students will also complete a research report that includes writing a research proposal, gathering data, using SPSS to run a multiple regression analysis, and analyzing computer results (120 points total).

Total points = 520.

Grading scale: A = above 93% A- = 90-93% B+ = 87-89% B = 84-86%
 B- = 80-83% C+ = 77-79% C = 74-76% C- = 70-73%
 D+ = 67-69% D = 64-66% D- = 60-63% F = below 60%

Detailed Description of Grade Assessment

1. **Exams:** There will be three exams during the semester, given on **Thursday, September 27th, Thursday, October 25nd, and Thursday, December 20th (1:00-3:00pm)**. The exams will be a mixture of multiple choice and problem sets. Each exam builds on work from previous sections of the course. Therefore, the exams may be comprehensive, at the instructor's discretion. Makeup exams are given at the discretion of the instructor.

2. **Quizzes:** Five announced quizzes will be given during lecture. The four highest scores will count for a grade. Makeup quizzes are only granted under exceptional circumstances and are at the discretion of Dr. Burkhart.

3. **Homework and Labs:** Students are assigned regular homework and lab assignments based on the readings. Students will attend labs on Thursdays in PAAW 125. Students are responsible for completing the homework by lecture period as noted and lab assignments by Thursday.

4. **Research Project:** Students complete a research project in which multiple regression analysis will be employed to answer a political science research question of the student's choosing. It is an opportunity to demonstrate mastery of the techniques involved in multiple regression analysis. This project has several elements to it, as listed below.

Of immediate concern is the data need to complete the assignment. Each student will have to find a dataset to use for the research question and analysis. Given the short time frame of this semester, each student should use readily available data and not attempt to create their own, through interviews for example. (Students may use the datasets that are contained on the CD-ROM that comes with the Pollock 2 book.) The student's time should be focused on generating the hypotheses, performing the analysis, and interpreting the results of the analysis.

There will be **two submissions** associated with the research project.

1. Each student will submit a proposal. It will be two pages, typed, and single-spaced. **The proposal is due in Dr. Burkhart's office on Friday, October 19th, by 5pm.** Late proposals are subject to points lost, at the discretion of the instructor. The proposal is worth 20 points and should include the following:
 - A — a clear statement of the research question to be investigated
 - B — a brief explanation of the reason why the student considers this question to be an important one to answer
 - C — identification of an interval level dependent variable and no more than three independent (no more than one nominal level) variables
 - D — an explanation of how the student plans to operationalize each variable
 - E — the hypotheses to be tested
 - F — the equation the student plans to estimate using multiple regression analysis
 - G — identification of the data the student plans to use

2. **A final, single-spaced report is due in Dr. Burkhart's office on Friday, December 7th, by 5pm.** Late reports after 5pm will have five points deducted, and each additional day late will result in an additional five points deducted. The report should include:
 - p. 1 (a) the research question investigated and
(b) a minimum of three citations from the literature
 - p. 2 (a) the unit of analysis, and
(b) the hypotheses tested and how they were generated
 - p. 3 (a) the equation estimated as well as why the student's model specification is expected to be a correct one

- p. 4 (a) identification of the variables and how they were operationalized, and
(b) the level of measurement of the independent variables
- p. 5 the results of the multiple regression estimation, presented and formatted in tabular form (no SPSS printout)
- p. 6 discussion of results with reference to the tables
- p. 7 discussion of the regression assumptions (autocorrelation, heteroskedasticity, linearity, multicollinearity, normality, residual outliers)
- p. 8 assessment of the model, including its validity, how well supported the hypotheses were by the results, and the implications of the results for future research
- p. 9+ appendix including all computer output, a copy of the data file, and bibliography

NOTE: PLAGIARISM—Plagiarism is unacceptable. Refer to the BSU Student Handbook for further clarification. Your instructor regularly checks student work using the Google search engine.

Recommended: Hacker, Diana. 2003. *A Writer's Reference*. 5th ed. Boston: Bedford St. Martin's.

Course Outline (NO CLASS August 30th, November 15th-22nd)

| Date | Topic | Readings |
|--|--|---|
| 8/28-9/4 Exercises Lab | Scientific thinking, simple regression and correlation Simple regression and correlation (due 9/4) Use of SPSS for Windows (refresher) | Pollock 1, ch. 1-2, 7 Handout Pollock 2, ch. 8, ex. 1 |
| 9/6-9/11 Exercises First quiz 9/11 | Simple regression & correlation: reliability & validity Reliability and Validity (due 9/6) | Pollock 1, ch. 1 Pollock 1, ch. 1, ex. 3 |
| 9/13-9/18 Exercises Lab | Simple regression & correlation: measurement/assumptions Simple regression & correlation (due 9/15) Simple regression and correlation | Pollock, chs. 1 & 7 Pollock 1, ch. 1, ex. 5 Pollock 2, ch. 8, ex. 2 |
| 9/20-9/27 Exercises FIRST EXAM 9/27 | Simple regression & correlation: assumptions (cont.) Simple regression and correlation (due 9/20) | Pollock 1, ch. 7 Pollock 1, ch. 7, ex. 2 |
| 10/2-10/4 Lab Second quiz 10/4 | Multiple regression: assumptions/interpretations Multiple regression | Pollock 1, ch. 7 Pollock 2, ch. 8, ex. 3 |
| 10/9-10/11 Lab Third quiz 10/11 | Multiple regression: interpretations (cont.) Multiple regression | Pollock 1, ch. 7 Pollock 2, ch. 8, ex. 4 |
| 10/16-10/18 Exercises Lab PROJECT PROPOSAL DUE 10/19 | Multiple regression: model building Multiple regression (due 10/16) Multiple regression | Pollock 1, ch. 7 Pollock 1, ch. 7, ex. 3 Pollock 2, ch. 8, ex. 5 |
| 10/23-10/25 Exercises SECOND EXAM 10/25 | Multiple regression: threats to inference Multiple regression (due 10/23) | Pollock 1, ch. 7 Pollock 1, ch. 7, ex. 4 |
| 10/30-11/1 Exercises Lab | Multiple regression: logistic regression Multiple regression (due 11/1) Open lab to work on research project | Pollock 1, ch. 8 Pollock 1, ch. 8, ex. 1 |

11/6-11/13 Multiple regression: transformations Handouts
Lab Open lab to work on research project
Fourth Quiz 11/6

11/27-11/29 Multiple regression: interactions Handouts
Lab Open lab to work on research project
Fifth Quiz 11/27

12/4-12/6 Regression applications: forecasting Handouts
Lab Open lab to work on research project
PROJECT DUE 12/7 by 5pm in Dr. Burkhardt's office

12/11-12/13 Regression applications: Granger causality Handouts

FINAL EXAM: THURSDAY, DECEMBER 20th, 1:00-3:00pm