

POS-5737
Political Science
Data Analysis
Fall 2005

TR 9:30-10:45
Lab: TR 8:00-9:00

William Berry
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(h) 222-8203 (betw. 8am & 9pm)
Off Hours: Tues & Thurs
10:50-12:15
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Jackie Rubin
Room BEL 550/ 644-7310
Off. Hours: Mon: 11:30-1:30
Thurs: 12:00-2:00
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This course is the second course in a four-course sequence that introduces students to methods of research in political science. The sequence is intended to teach basic skills useful for both (i) designing and conducting your own research projects, and (ii) evaluating the quality of published research. This semester's course primarily will be an introduction to statistical analysis.

Another goal of the course is to expose you to the use of computers, by having you use Stata to calculate statistics you will be learning in the class. Computer topics will be introduced in the early morning lab sessions. Jackie Rubin will have primary teaching responsibility for the labs. The course outline below includes a tentative schedule for the lab sessions (in bold text), but exact dates may be revised if the dates for course topics are adjusted. Students should keep Tuesdays and Thursdays from 8:00 – 9:00 free to accommodate these adjustments, but the lab will not meet every Tuesday and Thursday.

Students are expected to attend all class sessions and read all the assigned material for each topic prior to the first class session for which the material is assigned. The reading for this class is cumulative. If you start falling behind on the reading, you can get into a “heap o’ trouble.” So I urge you to be diligent in reading assignments on time. Moreover, as distasteful as it may sound, some memorization will be required. Perhaps with some topics, rote memorization of material is an indication of a lack of understanding. But when learning about statistics, memorization of definitions is a necessary first step toward understanding.

Course Texts:

- (1) Wonnacott and Wonnacott, *Introductory Statistics*, 5th ed. (to be denoted W&W below)
- (2) Weisberg, *Central Tendency and Variability*
- (3) Berry and Sanders, *Understanding Multivariate Research*
- (4) Wonnacott and Wonnacott, *Student Workbook to Accompany Introductory Statistics*, optional.

Course Requirements & Grading:

Most weeks, I will distribute exercises for you to work on. I strongly recommend that you complete all these exercises and that you work on them *individually*, consulting with other students only after you have attempted to finish the exercises yourself. But the exercises will not be graded, so you may work on these individually or in groups as you see fit. The W&W text includes problems in each chapter (and the answers to odd-numbered ones). The optional Workbook shows the odd-numbered problems worked through to solution. I suggest working

through as many of these problems as possible [If you suspect that the answer provided by W&W for any problem is incorrect, please report the error to Berry or Rubin.]

There will be three quizzes (administered during lab sessions), two midterm exams, and a final exam; all will be closed book, but I will include with the exam or quiz a list presenting various formulas. I will let you see the list of formulas prior to the exam or quiz, so that you will know what must be memorized before the exam. (My general guiding principle when preparing formula lists is that you must memorize “definitional” formulas to understand the concepts of the course, but “computational” formulas need not be memorized and can be “looked up” when needed.)

The exams and exercises will be weighted as follows in determining course grades:

First midterm exam	20%
Second midterm exam	25%
Final exam	40%
Three quizzes	5% each

Students expecting to pursue a Ph.D. need to be aware of the rules about grades in the methods sequence. You will need to earn a minimum grade of B in this course to satisfy the requirements for a Ph.D. Students receiving a B- can continue in the methods sequence and then retake this course in the following year. Students receiving a C+ or lower may not continue in the methods sequence until they retake this course and raise their grade.

Statement Concerning American Disabilities Act:

Students with disabilities needing academic accommodations should: (1) register with and provide documentation to the Student Disability Resource Center (SDRC); and (2) bring a letter to the instructor from SDRC indicating that the student needs academic accommodations. This must be done within the first week of class. This syllabus and other course materials are available in alternate form upon request.

Reminder of the Academic Honor Code:

The Department of Political Science adheres of the academic honor code as set forth in the Student Handbook and the Bulletin; students are expected to be familiar with and conform to this code, which addresses plagiarism, cheating and other matters.

Course Outline and Reading Assignments

The dates for topics (and exams) below are tentative; I will keep you posted on changes so that you are aware of when a new topic’s assigned reading must be done.

Tuesday, August 30	Preview of the Course	W&W, ch. 1
Thursday, September 1	Computing at FSU/Introduction to Stata	

Tuesday, September 6	8:00 Introduction to Stata Continued	
Tuesday, September 6	Multivariate Analysis: A Conceptual Introduction	Berry & Sanders, chs. 1-5
Thursday, September 8	Multivariate Analysis: A Conceptual Introduction	Berry & Sanders, chs. 6-7
Tuesday, September 13	8:00 Computing Descriptive Statistics Using Stata	
Tuesday, September 13	Descriptive Statistics: Distributions & Central Tendency	W&W, ch. 2, Weisberg, pp. 1-41
Thursday, September 15	8:00 Computing Descriptive Statistics Using Stata	
Thursday, September 15	Descriptive Statistics: Dispersion	W&W, ch. 2, Weisberg, pp. 46-76
Tuesday, September 20	8:00 QUIZ (date tentative)	
Tuesday, September 20	Probability	W&W, ch. 3
Thursday, September 22	Probability	W&W, ch. 3
Tuesday, September 27	Probability Distributions	W&W, ch. 4
Thursday, September 29	Probability Distributions	W&W, chs. 4-5
Tuesday, October 4	Probability Distributions	W&W, ch. 5
Thursday, October 6	FIRST MIDTERM EXAM (date tentative)	
Tuesday, October 11	NO CLASS: Veteran's Day	
Thursday, October 13	Sampling & Sampling Distributions	W&W, ch. 6
Tuesday, October 18	Sampling Distributions	W&W, ch. 6
Thursday, October 20	Statistical Inference: Point Estimation	W&W, ch. 7
Tuesday, October 25	Statistical Inference: Confidence Intervals	W&W, ch. 8
Thursday, October 27	Statistical Inference: Confidence Intervals	W&W, ch. 8
Tuesday, November 1	Statistical Inference: Hypothesis Testing	W&W, ch. 9

Thursday, November 3	8:00 QUIZ (date tentative)	
Thursday, November 3	Statistical Inference: Hypothesis Testing	W&W, ch. 9
Tuesday, November 8	Statistical Inference: Analysis of Variance	W&W, ch. 10
Thursday, November 10	SECOND MIDTERM EXAM (date tentative)	
	<u>Note</u> : Exam is cumulative but will emphasize material after the first midterm. Exam will not cover analysis of variance.	
Tuesday, November 15	Statistical Inference: Analysis of Variance	W&W, ch. 10
Thursday, November 17	Relationships Between Categorical Variables: Contingency Tables & the Chi-Square Test	W&W, ch. 17
Tuesday, November 22	Bivariate Regression	W&W, chs. 11-12
Thursday, November 24	NO CLASS: Thanksgiving	
Tuesday, November 29	8:00 QUIZ (date tentative)	
Tuesday, November 29	Bivariate Regression & Correlation	W&W, chs. 11-12, secs. 15-1 & 15-2
Thursday, December 1	8:00 Running Regression Using Stata	
Thursday, December 1	Multiple Regression	W&W, secs. 13-1, 13-2, 13-3, 13-4, 15-4 & 15.5
Tuesday, December 6	Multiple Regression	reading for 12/1 plus W&W, sect. 14-1, parts A&B
Monday, December 12	FINAL EXAM (7:30-11:30 am)	
	<u>Note</u> : Exam is cumulative and 4 hours in length.	