

POL 201
INTRODUCTION TO STATISTICAL METHODS IN POLITICAL SCIENCE
Spring 2007

Time: M-W 9:50 – 11:10 AM

Room: SBS S-738

Instructor: Eser Sekercioglu

Office: SBS N-741

Office Hours: Mondays and Wednesdays 1:00 PM - 2:00 PM, or by appointment

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COURSE DESCRIPTION

This course focuses on the scientific approach to politics. Students will be introduced to the logic of scientific inquiry and to basic statistical methods used in the study of government and politics. Statistics is an efficient and accepted way of communicating ideas; it is a means of bridging the gap between implication and inference. Contemporary political science research -- especially public opinion and policy research -- utilizes statistical techniques and, consequently, a basic understanding of these methods is crucial. In addition, the lectures will illustrate how human reasoning is oftentimes flawed by illogical and otherwise biased processes, which can and oftentimes do lead to erroneous conclusions. Statistical thinking can be a corrective to many such biases.

The lectures, quizzes, and exams are designed to instruct you in the understanding and proper use of social science methods and promote your critical analysis of statistical findings. Students will learn to describe data, understand the impact of randomness in statistical research, conduct statistical tests, and most importantly learn to evaluate the implications of quantitative results.

We will start slow and spend some time on the fundamental concepts in the first few weeks and then take up speed in the following weeks. We will adopt a hands-on approach in this class. Every two weeks or so, depending on the availability of the computer labs, we will have lab sessions. In these sessions we will learn how to use computers for basic statistical analysis. In addition we will also practice reporting data and analysis results.

TEXT AND MATERIALS

The book is Jack Levin and James Fox's *Elementary Statistics in Social Research*, New York: Longman Publishers, Tenth Edition.

We will read almost this entire book except for a few chapters. The textbook is ordered through the university bookstore, which is located in the library. You may also find the book at Stony Books, a bookstore located across the railroad station.

A calculator with built-in functions for squaring and taking square roots will be necessary to do many of the quizzes and for exams, but NO graphing calculators or memory capable devices are allowed.

Blackboard

Our course will extensively make use of the Blackboard system. Course documents, external links, grades as well as announcements about the course will be posted in the Blackboard site.

You can access class information on-line at: <http://blackboard.sunysb.edu>. If you have used Stony Brook's Blackboard system previously, your login information (Username and Password) has not changed. If you have never used Stony Brook's Blackboard system, your initial password is your SOLAR ID# and your username is the same as your Stony Brook (sparky) username, which is generally your first initial and the first 7 letters of your last name. For help or more information see: <http://www.sinc.sunysb.edu/helpdesk/docs/blackboard/bbstudent.php>

For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@ic.sunysb.edu

GRADING

Exam 1	35 %
Exam 2	35%
Quizzes (5)	20%
Attendance & Participation	10%
Total:	100%

Exams 1 & 2: Exam 1 will be on October 25 and Exam 2 will be on December 13, 2006. Each exam is worth **35** percent of your grade. Exam will cover the material in the book on subjects we cover in class as well as lectures. The exam is intended to test your comprehension of statistical concepts and your ability to apply the knowledge you acquire to solve problems. Therefore there will be three types of questions in the midterm: (a) Problems, (b) Short answer questions, and (c) true false questions. The exam will **not** be open book but I will provide the necessary tables and formulas you will need to use during the exam. Also, you will require a calculator capable of taking squares and square roots. Scientific calculators are allowed but hand held devices with memory capabilities and cell phones are strictly prohibited. Using a prohibited device during an exam (cell phone, PDA or any electronic device with memory capabilities) will be treated as cheating. Exam 2 is **not** comprehensive.

Quizzes: Five unannounced quizzes will be given during the semester. No advance notice of quizzes will be given. Each quiz will cover material assigned for that lecture. Each quiz is worth 4 percent of your grade and in total quizzes will account for 20 percent of your grade

Grades will be based on the following scale:

GRADE	PERCENTAGE
A	93-100%
A-	90-92%
B+	86-89%
B	83-85%
B-	80-82%
C+	70-79%
C	60-69%
D	50-59%
F	0-49%

If the average of the class is lower than 72 then grades will be adjusted to bring the average to 72 (e.g. if the average is 68 then I will add 4 points to everybody's grades bringing the average to 72 and apply the grading scale only after adjusting the average) and letter grades will be given accordingly.

Attendance & Participation: Regular attendance to the course is required. Your attendance record and your participation will account for 10 percent of your grade.

Disability Statement: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, Educational Communications Center (ECC) Building, Room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site:

<http://www.stonybrook.edu/ehs/fire/disabilities.shtml>

COURSE SCHEDULE

Part 1 - Describing Data: Statistical tools to make data transparent

January 22: Introduction

January 24: Review of mathematical concepts.

January 29: Why use statistical analysis in social sciences?

Reading: Levin and Fox Chapter 1.

January 31: Levels of measurement, and variables

Reading: Levin and Fox Chapter 1.

February 5: Organizing Data 1 – Frequency distributions, ratios and rates, and percentiles.

Reading: Levin and Fox Chapter 2 pages 27-46

February 7: Organizing Data 2 – Cross tabulations and Graphical Representation

Reading: Levin and Fox Chapter 2 Pages 46-71.

February 12: Measures of Central Tendency : Mean, Median, and Mode

Reading: Levin and Fox Chapter 3.

February 14: Measures of Variability

Reading: Levin and Fox Chapter 4

February 19: Lab session (Location will be announced)

Part 2: Decision Making

February 21: Probability

Reading: Levin and Fox Chapter 5 pages: 141-152

February 26: The normal curve

Reading: Levin and Fox Chapter 5 pages 152- 172

February 28: Sampling 1

Reading: Levin and Fox Chapter 6 pages 179-194

March 5: Sampling 2

Reading: Levin and Fox Chapter 6 pages 194-210

March 7: Lab Session and Review

March 12: **Exam 1**

March 14: Differences between means 1

Reading: Levin and Fox Chapter 7 pages 217-236

March 19: Differences between means 2

Reading: Levin and Fox Chapter 7 pages 236-255

March 21: Analysis of Variance

Reading: Levin and Fox Chapter 8

March 26: **Lab session and Review**

March 28: Nonparametric tests of variance

Reading: Levin and Fox Chapter 9

April 2: Spring Break - No Class

April 4: Spring Break - No Class

April 9: Correlation 1

Reading: Levin and Fox Chapter 10

April 11: Correlation 2

Reading: Levin and Fox Chapter 10

April 16: Regression Analysis 1

Reading: Levin and Fox Chapter 11 Pages 357-367

April 18: Regression Analysis 2

Reading: Levin and Fox Chapter 11 Pages 368-378

April 23: Non-parametric measures of correlation

Reading: Levin and Fox Chapter 12

April 25: Applying Statistics

Reading: Levin and Fox Chapter 13

April 30: Review

May 2 : Exam 2