POLS 201
Political Data Analysis
Fall 2007

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Course Description and Purpose:

The object of this course is to understand the how and why of basic statistical analysis. The plan for the course includes no lecture-based examinations and no term papers, and relies instead on a number of primary data research projects to assess the students' understanding of the various statistical tools needed to make sense of the data collected. These projects will cover the following statistical concepts and procedures:

1. Descriptive Statistics: Categorical data
2. Descriptive Statistics: Quantitative data
3. Probability Theory
4. Z-Scores
5. Probability Distributions
6. Comparing quantitative observations from two different groups: the t-test
7. Assessing the relationship between one quantitative measure and another: Correlation
8. Comparing categorical observations from two or more different groups: the Chi- square test
9. Comparing quantitative observations from two or more different groups: ANOVA
10. Assessing the relationship between a quantitative measure and time: Time Series Regression
11. Assessing the relationship between two quantitative measures: Regression

These projects, with some necessary exceptions, will be completed using the computer program known as SPSS (Statistical Package for the Social Sciences).

Any student with special instructional needs is requested to discuss those needs with me at the student's earliest convenience.

Date	Topic and Assignments Due
August 27	Syllabus and introduction
August 29	Qualitative data
August 31	Quantitative data **(Assignment. 1: Qualitative data due)**
September 3	OFF
September 5	OFF
September 10	Quantitative data
September 12	Probability theory **(Assignment. 2: Quantitative data due)**
September 14	Probability theory
September 17	Probability theory
September 19	Normalization **(Assignment 3: Probability theory due)**
September 21	Normalization
September 24	Review: Data and probability theory **(Assignment 4: Z-scores due)**
September 26	Review: Data and probability theory
September 28	**MIDTERM 1**
October 1	Probability distributions
October 3	Probability distributions
October 5	Probability distributions **(Assignment 5: Probability distributions due)**
October 8	T-test
October 10	T-test
October 12	**Lab Analysis of T-test data**
October 15	Correlation **(Assignment 6: T-test due)**

October 17   Correlation

October 19   Correlation

October 22   Correlation

October 24   Chi-square

October 26   **Lab Analysis of Correlation data**

October 29   Chi-square **(Assignment 7: Correlation due)**

October 31   Chi-square

November 2   **Lab Analysis of Chi-square data**

November 5   ANOVA **(Assignment 8: Chi-square due)**

November 7   Review: Inference, Correlation, and Chi-square

November 9   **MIDTERM 2**

November 12   ANOVA

November 14   ANOVA

November 16   **Lab Analysis of ANOVA data**

November 19   Time series regression **(Assignment 9: ANOVA due)**

November 21   Time series regression

November 23   OFF

November 26   **Lab Analysis of Time series regression data**

November 28   Regression **(Assignment 10: Time Series Regression due)**

November 30   Regression

December 3   **Lab Analysis of Regression data**

December 5   Statistical tests and Inference Overview **(Assignment 11: Regression due)**

December 7   Statistical tests and Inference Overview

April 27   Review: ANOVA, Time Series Regression, Regression

April 30   **FINAL PRESENTATIONS**

May 2   **FINAL PRESENTATIONS**

May 4   **FINAL TEST**

Grading:

Assignment	Points
1: Qualitative data	10
2: Quantitative data	10
3: Probability theory	10
4: Z-scores	10
Midterm 1	20
5: Probability distributions	10
6: T-test	10
7: Correlation	10
8: Chi-square	10
Midterm 2	20
9: ANOVA	10
10: Time-series regression	20
11: Regression	20
Final project	20
Final test	20
Total	**210**

Assignment Requirements:

Late assignments will not be accepted; if you have a problem e-mail me or talk to me before the assignment is due and we can work something out; do not come to me after. Assignments are due in class on the due date specified in the syllabus. Include your name. Staple the assignment. Write clearly and legibly. Answer questions in order and place the sections in order. Assignments should be hand written, no computer calculations or graphs. Show all your work when performing calculations. There are no make-up assignments. All of the grading will be the responsibility of the TA (Greg). If you have questions about your grade for an assignment talk to the TA (Greg); he is very nice, and funny, I assure you. When we analyze statistics in the lab

make sure you attend because this is where I show you how to run the statistics you require to complete the later assignments.

Exams

Exams will be generally fill-in-the-blank format. The exams are designed to test your knowledge and ability to apply the statistical concepts learned in the course. There may be some calculation questions, but they will be simple and formulas will be provided if necessary; most of the questions on the exams will test conceptual knowledge. Exams will not be cumulative.

Final Project and Presentation:

The final project consists of replicating one of the previous assignments on your own. You may choose to run an ANOVA, Chi-square, or regression statistic on new data that you have collected. Answer all the same questions that were required for the previous assignment in writing that is to be handed in (worth 10 points). You are also required to make a short 1-2 minute presentation of your findings. Make a visual display of the SPSS analysis printout (i.e., overhead) and briefly summarize your findings in front to the class (10 points just for presenting, presentation quality is not graded). The final presentation is required in order to receive a grade for the final project. You must also be present for the presentations of your fellow students to receive a grade for the final project.