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Office Hours: W, 3:00–5:00 pm or by appointment

PolS 401 Data Analysis I
Fall 2005
Room 4133, BSB
T/R, 03:00 - 04:15 pm

COURSE OVERVIEW

This course offers graduate students a first introduction to the study of data analysis. It will provide you with both an understanding of the main ideas of statistics and some crucial research skills for empirical analysis. The tools you will acquire in this class are the building blocks for any future interactions you have with statistics. This course is also designed to give you an opportunity to develop, design, and write a replication paper.

INFOMATION ON TEACHING ASSISTANT

Tom Kelly
Office Hours: T/R, 02:00 – 03:00 pm
Office Location: Room 1113, BSB
Phone: 312-996-4485

Tom will check class attendance; grade Tuesday quizzes, Tuesday lecture summaries, Thursday Stata outputs, a critical review paper, a replication paper outline, and an extra-credit assignment; and answer any statistical questions you may have.

REQUIRED TEXTBOOKS

- 1) Ulrich Kohler and Frauke Kreuter, 2005, *Data Analysis Using Stata*, Stata Press.
- 2) Lawrence C. Hamilton. 2004. *Statistics with Stata (Updated for Version 8)*. Brooks/Cole.
- 3) Alan Agresti and Barbara Finlay. 1997. 3rd Ed. *Statistical Methods for the Social Sciences*. New Jersey: Prentice Hall.

GRADING POLICY

- 12 Tuesday Quizzes (12 points):* A short quiz given at the end of every Tuesday class.
- 12 Tuesday Lecture Summaries (12 points):* Each lecture summary must be one page long, typed, single-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper.
- 12 Thursday Stata Outputs (12 points):* Please, turn in your Stata outputs that you have worked on every Thursday.
- A Critical Review Paper (12 points):* Its purpose is to help you to start to ponder on your replication paper. Your review should be three to four pages long, typed, double-spaced, in

a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. The due date is *October 11*.

A Replication Paper Outline (12 points): Its purpose is to help you to choose your replication paper topic as early as possible. For a topic selection, please consult with the Data Sets link at the *Journal of Conflict Resolution* at <http://www.yale.edu/unsy/jcr/jcrdata.htm>, the website of the Inter-Consortium for Political and Social Research (ICPSR) at <http://www.icpsr.umich.edu/>, etc. Your outline should be four to five pages long, typed, double-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. The due date is *November 3*.

A Replication Paper (40 points): Its purpose is to allow you to demonstrate your research potential. Your paper should include introduction, literature review, research design, empirical findings, and conclusion. It should be about 17 to 20 pages long, typed, double-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. The due date is *December 6*.

An Extra-Credit Assignment (5 points): Let us seat back and watch, *A Beautiful Mind*, a human drama about the struggle of a true mathematical genius, inspired by events in the life of John Forbes Nash, Jr. Your movie review should be about one page long, typed, double-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. The due date is *October 18*.

OTHER COURSE POLICIES

Late work: I am willing to help solve almost any special problem or concern you might have about this course. However, this is only possible if you talk to me about it **in advance** of assignment due dates. Extensions for assigned work will be granted only for documented medical or family emergencies. In sum, if you anticipate difficulty submitting assigned work by the specified due date because of illness or other emergency, extensions are possibly only when you

- contact me in advance (by email, phone, or voice mail)
- provide me with appropriate documentation

Computer-related problems: Ultimately, you are responsible for backing up your own work and caring properly for your own computing equipment. I will grant extensions for assignments due to computer-related problems, but only in the rarest of circumstances. First, I will not entertain any requests for extensions due to computer-related problems made to me within 12 hours of the paper's due date. If you expect computer difficulties to make it impossible for you to submit a paper by the due date (and that due date is not within 12 hours away) contact me and we will discuss alternative arrangements for you.

Accommodations for disabilities: If you need accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately. Please see me privately after class, or at my office.

Students with disabilities requiring academic accommodations in this course are encouraged to contact a coordinator at the Office of Disabilities Services, 1200 W. Harrison St. Room 1190 SSB (MC 321). And please, make an appointment to meet and discuss your needs with me at least one day prior to the due dates. This is necessary in order to ensure sufficient time to make the necessary arrangements.

Academic dishonesty: The University expects students to fulfill their academic obligations through honest and independent effort. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. Academic dishonesty is considered a serious offense subject to strong disciplinary actions, including being dropped from the course with a grade of “F.”

Classroom etiquette: You are expected to observe all rules of proper classroom conduct. In order to insure an appropriate environment conducive to learning by all: (1) please keep in mind that computers are only for statistics during class time; (2) please refrain from talking, eating or other disruptive activity during class; even one or two conversations quickly create distractions for other students; (3) no cell phone calls, incoming or outgoing, are allowed in this class; please turn off your cell phone or set to vibrate; and (4) please do not come to class late. Also, please do not leave class early; if you must do so, tell me beforehand and arrange to sit near the door so your exit will be less disruptive.

COURSE SCHEDULE

T, August 23: Introduction

R, August 25:

Agresti and Finlay, Chapter 1 Introduction
Chapter 2 Sampling and Measurement

T, August 30:

Kohler and Kreuter, Chapter 1 “The first time”
Hamilton, Chapter 1 Stata and Stata Resources

R, September 1:

Agresti and Finlay, Chapter 3 Descriptive Statistics

T, September 6:

Kohler and Kreuter, Chapter 2 Working with do-files
Hamilton, Chapter 2 Data Management

R, September 8:

Agresti and Finlay, Chapter 4 Probability Distributions

T, September 13:

Kohler and Kreuter, Chapter 3 The grammar of Stata
Chapter 4 Some general comments on the statistical commands
Hamilton, Chapter 2 Data Management

R, September 15:

Agresti and Finlay, Chapter 5 Statistical Inference: Estimation

T, September 20:

Kohler and Kreuter, Chapter 5 Creating and changing variables
Hamilton, Chapter 2 Data Management

R, September 22:

Agresti and Finlay, Chapter 6 Statistical Inference: Significance Tests

T, September 27:

Kohler and Kreuter, Chapter 7 Describing and comparing distributions
Hamilton, Chapter 4 Summary Statistics and Tables

R, September 29:

Agresti and Finlay, Chapter 9 Linear Regression and Correlation

T, October 4:

Kohler and Kreuter, Chapter 7 Describing and comparing distributions
Hamilton, Chapter 4 Summary Statistics and Tables

R, October 6:

Agresti and Finlay, Chapter 10 Introduction to Multivariate Relationships

T, October 11: Critical Review Paper Due

Oneal, John R. and Bruce Russett. 1999. "The Kantian Peace: The Pacific Benefits of Democracy, Interdependence, and International Organizations, 1885-1992." *World Politics* 52 (1): 1-37.

Seung-Whan Choi and Patrick James. Forthcoming. "Media Openness, Democracy, and Militarized Interstate Disputes: An Empirical Analysis." *British Journal of Political Science*.

R, October 13: Movie Review: A Beautiful Mind

T, October 18: Extra-Credit Assignment Due

Kohler and Kreuter, Chapter 8 Introduction to linear regression
Hamilton, Chapter 6 Linear Regression Analysis

R, October 20:

Agresti and Finlay, Chapter 11 Multiple Regress and Correlation

T, October 25:

Kohler and Kreuter, Chapter 8 Introduction to linear regression
Hamilton, Chapter 6 Linear Regression Analysis

R, October 27:

Agresti and Finlay, Chapter 14 Model Building with Multiple Regression

T, November 1:

Kohler and Kreuter, Chapter 8 Introduction to linear regression
Hamilton, Chapter 7 Regression Diagnostics

R, November 3: Replication Paper Outline Due

Agresti and Finlay, Chapter 15 Logistic Regression: Modeling Categorical Responses

T, November 8:

Kohler and Kreuter, Chapter 9 Regression models for categorical dependent variables
Hamilton, Chapter 10 Logistic Regression

R, November 10:

Agresti and Finlay, Chapter 15 Logistic Regression: Modeling Categorical Responses

T, November 15:

Kohler and Kreuter, Chapter 9 Regression models for categorical dependent variables
Hamilton, Chapter 10 Logistic Regression

R, November 17:

Agresti and Finlay, Chapter 15 Logistic Regression: Modeling Categorical Responses

T, November 22:

Kohler and Kreuter, Chapter 9 Regression models for categorical dependent variables
Hamilton, Chapter 10 Logistic Regression

R, November 24: Thanksgiving Day Holiday. University Closed.

T, November 29: Replication Paper Presentations

R, December 1: Replication Paper Presentations

T, December 6: Replication Paper Due