

Seung-Whan Choi
1122B BSB
Phone: 312-413-3280

Email: whancoi@uic.edu
Web: <http://www.uic.edu/~whancoi/>
Office Hours: Thur, 01:15 - 03:15pm or by appointment

PolS 501 Data Analysis II
Spring 2006
Room 1171 or 4133, BSB
T, 06:00 - 08:30pm

COURSE OVERVIEW

This course offers graduate students the second introduction to the study of data analysis. It will provide you with both an understanding of the main ideas of advanced 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 will have with statistics. This course is also designed to give you an opportunity to develop, design, and write a research paper.

INFORMATION ON TEACHING ASSISTANT

Tom Kelly
Office Hours: T/W, 02:00 - 03:00pm
Office Location: Room 1145, BSB
Phone: 312-413-3778

Tom will check class attendance; grade twenty-one critical reviews, eleven lecture summaries, six replication papers and log-files, a research proposal, and an extra-credit assignment; and answer any statistical questions you may have.

COURSE MATERIALS

There are four required textbooks as follows:

- 1) Hoffmann, John P. 2004. *Generalized Linear Models: An Applied Approach*. Pearson.
- 2) Gujarati, Damodar N. 2003. 4th ed. *Basic Econometrics w/Software Disk Package + EViews CD*. McGraw-Hill.
- 3) Rabe-Hesketh, Sophia and Anders Skrondal. 2005. *Multilevel and Longitudinal Modeling Using Stata*. Stata Press.
- 4) Kohler, Ulrich and Frauke Kreuter. 2005. *Data Analysis Using Stata*. Stata Press.

Copies of other course materials are available online at <http://www.uic.edu/depts/pols/index.html>. Look for the Faculty and Student Folder at the right top. The user name and password will be provided in class.

GRADING POLICY

Class Attendance (5 points): Regular attendance is required of all students. Attendance is one of the most important measures of your interest and desire to do well academically. Your attendance helps me facilitate better discussions, and your fellow students benefit from your ideas and experiences. Without appropriate documentation, each absence will cost you one point.

Class Participation (15 points): You are expected to actively participate in class discussion. Participation would include thoughtful comments, sophisticated questions about readings, clear evidence of active listening to your fellow students, and other valuable contributions to classroom discussion.

Twenty-One Critical Reviews (21 points): Its purpose is to help you to start to ponder on your research paper. It must be half page long per reading (whose list starts with the symbol, •), typed, single-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. Each review should be submitted at the beginning of each class.

Eleven Lecture Summaries (11 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. The due date for each lecture summary is a week from the lecture that you had. For example, the due date for the lecture on January 17 is January 24.

Six Replication Papers and Log-Files (12 points): Its purpose is to help you to familiarize with Stata programs provided. Report how you have replicated each article (whose title starts with the symbols, *). It must be half page long per article, typed, single-spaced, in a legible font (10 to 12 point), with 1 inch margins on standard letter-size paper. Each replication paper and log-file should be submitted at the beginning of each class.

A Research Paper Proposal (12 points): Its purpose is to help you to choose your research paper topic as early as possible. Your outline should be seven to nine 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 *March 13*.

A Research Paper (24 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 *April 28*.

An Extra-Credit Assignment (3 points): Let us seat back and watch, *Thirteen Days*. The film is set during the two-week Cuban missile crisis in October of 1962, and it centers on how President John F. Kennedy, Attorney General Robert Kennedy, and others handled the explosive national crisis. 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 *April 25*.

The grading scale is as follows: A (90-103); B (80-89); C (70-79); F (< 70)

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

January 10: Introduction

January 17: OLS Regression Models

- Hoffmann, Ch. 1 A Review of the Linear Regression Model
- Gujarati, 1.7 The Nature and Sources of Data for Economic Analysis
 - 10.1 The Nature of Multicollinearity
 - 11.1 The Nature of Heteroscedasticity
 - 12.1 The Nature of the Problem (Autocorrelation)

January 24: Generalized Linear Models

- Hoffmann, Ch. 2 Introduction to Generalized Linear Models

January 31: Logistic and Probit Regression Models

- Hoffmann, Ch. 3 Logistic and Probit Regression Models
- Gujarati, 15.10 Logit and Probit Models

February 7: Poisson and Negative Binomial Regression Models

- Hoffmann, Ch. 6 Poisson and Negative Binomial Regression Models
- Li, Quan. 2005. "Does Democracy Promote or Reduce Transnational Terrorist Incidents?" *Journal of Conflict Resolution* 49 (2): 278-297.
- * Li, Quan. 2005. "Does Democracy Promote or Reduce Transnational Terrorist Incidents?" *Journal of Conflict Resolution* 49 (2): 278-297.

February 14: Cross-Sectional, Time Series Data Analysis

- Gujarati, Ch. 16 Panel Data Regression Models
- Kohler and Kreuter, 8.6.2 Regression Models for Panel Data
 - 8.6.3 Error-Components Models
- 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.
- * 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.

February 21: Research Design

- Bremer, Stuart A., Patrick M. Regan and David H. Clark. 2003. "Building a Science of World Politics: Emerging Methodologies and the Study of Conflict." *Journal of Conflict Resolution* 47 (1): 3-12.

- Bennett, D. Scott and Allan C. Stam. 2000. "Research Design and Estimator Choices in the Analysis of Interstate Dyads." *Journal of Conflict Resolution* 44 (5): 653-685.
- * Bennett, D. Scott and Allan C. Stam. 2000. "Research Design and Estimator Choices in the Analysis of Interstate Dyads." *Journal of Conflict Resolution* 44 (5): 653-685.
- Bennett, D. Scott and Allan C. Stam. 2000. "EUGene: A Conceptual Manual." *International Interactions* 26 (2): 179-204. See also <http://eugenesoftware.org/>
- * Tucker, Richard. 1998. The Interstate Dyad-Year Dataset, 1816-1997. Version 3.0. Cambridge, MA: Harvard University. (DYADTSCS: A Program to Generate Dyadic Time-Series--Cross-Section Data)

February 28: Simultaneous-Equation Models I

- Gujarati, Ch. 18 Simultaneous-Equation Models
- Keshk, Omar M.G., Brian M. Pollins, and Rafael Reuveny. 2004. "Trade Still Follows the Flag: The Primacy of Politics in a Simultaneous Model of Interdependence and Armed Conflict." *Journal of Politics* 66 (4): 1155-1179.
- * Keshk, Omar M.G., Brian M. Pollins, and Rafael Reuveny. 2004. "Trade Still Follows the Flag: The Primacy of Politics in a Simultaneous Model of Interdependence and Armed Conflict." *Journal of Politics* 66 (4): 1155-1179.

March 7: Research Proposal Due by 5:00pm

March 13: Research Proposal Presentations

March 14: Simultaneous-Equation Models II

- Gujarati, Ch. 19 The Identification Problem

March 21: Spring Break. University Closed

March 28: Simultaneous-Equation Models III

- Gujarati, Ch. 20 Simultaneous-Equation Methods

April 4: Multilevel and Longitudinal Modeling or Regression Diagnostics

- Rabe-Hesketh and Skrondal, Ch. 1 Linear Variance-Components Models
- King, Gary. 1986. "How Not to Lie With Statistics: Avoiding Common Mistakes in Quantitative Political Science." *American Journal of Political Science* 30 (3): 666-687.
- Bollen, Kenneth A. and Robert W. Jackman. 1985. "Regression Diagnostics: An Expository Treatment of Outliers and Influential Cases." *Sociological Methods and Research* 13 (4): 510-542.
- Braumoeller, Bear F. 2004. "Hypothesis Testing and Multiplicative Interaction Terms." *International Organization* 58 (4): 807-820.

* Braumoeller, Bear F. 2004. "Hypothesis Testing and Multiplicative Interaction Terms."
International Organization 58 (4): 807-820.

April 11: Multilevel and Longitudinal Modeling

- Rabe-Hesketh and Skrondal, Ch. 4 Dichotomous or Binary Responses

April 18: Movie Review: Thirteen Days

April 25: Research Paper Presentations (Extra-Credit Assignment Due)

April 28: Research Paper Due by 5:00pm