POLS 602: Quantitative Political Analysis I

Texas A&M University

Fall 2006

Thursdays, 2:00 - 4:50 PM, Allen 2064

Instructor:	Dr. Guy D. Whitten (Associate Professor)
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Office hours:	Tuesdays 2:00 PM - 4:00 PM, and by appointment

General: The goal of this course is to provide students with the basic tools necessary to conduct empirical research and to critically read the empirical research of others. The major emphasis of this course will be on the basic building blocks of econometric techniques employed by political scientists and public policy researchers. We will thus be taking the classical frequentist approach to most topics. We will, however, periodically refer to the increasingly popular Bayesian approach to statistical inference as well as several other simulation-based methods for providing insights. Throughout this course we will focus on the presentation of statistical results. Even the most exciting statistical results can be rendered useless if they are not effectively presented.

Grades: Course grades will be based on performances on a midterm exam (35%), a final exam (40%), and homework assignments (25%). Homework grades may include periodic unannounced quizzes designed to encourage reading of the assigned materials.

Homework: Homework assignments are an important part of methodology courses. Unless you are working on problem sets that require that you show your work, it is expected that all homework assignments will be typed. Presentation is an important part of the homework assignments for this course.

Analysis: For statistical work in this class, STATA will be required.

Textbooks: There are two assigned books for this course. Jeff Gill's *Essential Mathematics for Political and Social Research* (Cambridge University Press, 2006) plays the role implied by its title. We will use this book to learn or refresh our memories on the mathematical concepts crucial to beginning political methodlogists. Damodar Gujarati's *Basic Econometrics* (McGraw-Hill, 4th edition, 2003) provides solid coverage of the core topics of the course. There are several other books that compete with the Gujarati text in the market for calculus-free introductions to econometrics. In the past, students have frequently taken a look at such texts in order to get a slightly different perspective. In particular, Peter Kennedy's *A Guide to Econometrics* contains more basic explanations and is generally less "mathy". Gujarati has also written *Essentials of Econometrics* which presents much of the same material as the assigned text, but in more basic terms.

Class Schedule: We will spend as much time as necessary on each topic for this course. Because I am unable to predict in advance how long each topic will take, the schedule below is only a rough guideline. The timing of the exams will, however, not change without unanimous approval of a new time. *It is expected that you will have read the assigned readings* ***before*** *the class period for which they are assigned. Additional required readings will be announced during class meetings.*

Week 1 August 31 APSA Meetings, No class Meeting

Week 2 September 7 Regression Basics; Review of Mathematical Notation; Producing Replicable Analyses (This meeting will be rescheduled)

- Gill Chapter 1
- Gujarati Introduction and Chapter 1
- Nagler, Jonathan (1995) "Coding Style and Good Computing Practices." *The Political Methodologist*, 6:2-8.

Week 3 September 14 Bivariate Regression I

- Gujarati Chapters 2 and 3

Week 4 September 21 Bivariate Regression II; Calculus Basics I

- Gill Chapter 5 and 6
- Gujarati Chapters 4 and 5

Week 5 September 28 Bivariate Regression III

- Gill Chapter 7
- Gujarati Chapter 6

Week 6 October 5 Midterm Exam

Week 7 October 12 Multivariate Regression I; Random Variables

- Gill Chapter 8
- Gujarati Chapter 7

Week 8 October 19 Multivariate Regression II; Clarify

- Gujarati Chapter 8
- King, Gary, Michael Tomz, and Jason Wittenberg (2000) "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science*, 44:347-61.

Week 9 October 26 Being Smart with Dummy Variables; Interactive Specifications

- Gujarati Chapter 9
- Brambor, Thomas, William Clark and Matt Golder (2006) "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis*, 14:63-82.

Week 10 November 2 Micronumerosity and Multicollinearity

- Gujarati Chapter 10

Week 11 November 9 Heteroscedasticity

- Gujarati Chapter 11

Week 12 November 16 Autocorrelation (This meeting will be rescheduled)

- Gujarati Chapter 12

Week 13 November 23 Thanksgiving Holiday

Week 14 November 20 Qualitative Response Models

- Gujarati Chapter 13

Week 15 December 5 Aggie Timewarp Thursday—wrap up and review

Week 16 December 12 Final Exam

Statement about Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637.

Statement about Course Materials/Copyright and Plagiarism

The materials used in this course are copyrighted. By "materials," I mean anything generated for this class, which include but are not limited to syllabi, presentations, web pages, quizzes, exams, lab problems, in-class materials review sheets, and additional problem sets. Because these are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with the definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of the person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the Texas A&M University web site, http://aggiehonor.tamu.edu.