ECON 6112-090: Graduate Econometrics
Fall 2012, Friday 130, Tuesday 6:30PM-9:15PM

Instructor: Dr. Stephen Billings
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Office Hours: Tuesday 3:30PM-6:30PM and by appointment

Required Text: Basic Econometrics (5th edition) by Damodar N. Gujarati and Dawn C. Porter. The website for the book has the data sets posted: http://www.mhhe.com/gujarati5e
I suggest purchasing a used version of this textbook since this edition has been out for a couple of years. Please use the same edition because I will assign some homework problems from the textbook

Electronic Distribution of Class Material: There is a Moodle page for this course, accessible through 49er Express. Lecture outlines (for some classes), homework assignments, journal articles and other materials will be posted to the website as the semester progresses. While you are not required to print the outlines and bring them to class, the pace of the lectures will be based on the assumption that you have the outlines in front of you during class.

Software: I will support Stata for use in econometric estimation in this course, but you are welcome to use other software for estimation. Stata is available in the public student computer labs in rooms 216 and 338 of the Friday building. You may purchase Stata at a reduced rate through the Stata website: http://www.stata.com/order/new/edu/gradplans/

I recommend that you purchase the Stata/IC version. In addition, the following recommended texts may be helpful as you learn Stata: 1) Baum, Christopher. (2006). An Introduction to Modern Econometrics Using Stata, Stata Press and 2) Cameron, A. Colin and Pravin K. Trivedi. (2009). Microeconometrics using Stata, Stata Press.

Course Description and Objectives: Advanced study of the theory and application of statistics to economic problems. Topics include the derivation of least squares estimators, maximum likelihood estimation, and problems of multicollinearity, heteroskedasticity, and autocorrelation. The objective of this course is to master basic econometric concepts and to apply these concepts to economic research questions.

Attendance: Classroom attendance is strongly recommended. We will be covering a substantial amount of material in this course, and you will probably find that the easiest way to keep up (and find out what I think is important) will be to attend class. I expect you to be in class on time and stay for the duration. If you do not plan to attend the entire lecture, please see me in advance or refrain from coming to class.
**Communication:** Communication with those outside of class while class is in progress is not acceptable. (In other words, turn off all communication devices prior to the start of class.) Students are expected to check their UNC Charlotte e-mail (username@uncc.edu) as well as the class Moodle webpage accounts weekly for correspondence regarding the course.

**Grading:** Your course grade will be determined by your performance on two in-class exams and four econometric projects. In addition, you will be given a series of homework assignments that will not be graded. These components, discussed below, will have the following weight in the calculation of your final grade:

- **Test One (Midterm) 30%**
- **Test Two (Final) 30%**
- **Econometrics Projects 40% (10% each)**
- **Homework 0%**

**Tests:** Makeup exams are administered only for extreme situations such as illness, death in the family, etc and the instructor is allowed to re-weight other assignments in lieu of a makeup exam.

**Econometric Projects:** Forty percent of your course grade will be based upon a series of econometric projects. The intention of these projects is that you complete them on your own and not collaboratively. For these assignments, you are not to consult with anyone but me for assistance. These assignments may not be made up. With **NO EXCEPTIONS**, a project grade will be discounted by 10 percent of the maximum grade for each day that it is late, with the first deduction taken when the assignment is not handed in by the end of class on the due date. Assignments not handed in by the class in which the graded project is returned will receive a grade of zero.

**Grading Scale:** Letter grades will be based on the following scale (in percentage terms):
- **A 90 and above**
- **B 80-89.99**
- **C 70-79.99**
- **U Below 70**

**Academic Integrity:** Please note that academic misconduct (cheating) will **NOT** be tolerated. In addition, students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity. This code forbids cheating, fabrication or falsification of information, multiple submissions of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Academic evaluations in this course include a judgment that the student’s work is free from academic dishonesty of any type; and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to U. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in
this course. Students are expected to report cases of academic dishonesty to the course instructor. In addition, the following rule regarding conduct applies:

**Statement on Diversity:** The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

**Proposed Course Outline:** While there are no guarantees regarding how well I will be able to follow this outline, it should give you some idea of the material that I intend to cover and of the intended rate of progress. Keeping up with deviations from the outline is your responsibility.

8/21 Introduction to the course (Introduction and Ch 1) and Review of Calculus (handout) & Matrix Algebra (Appendix B)

8/28 Review of Basic Statistical Concepts

9/4 Introduction to Two-Variable Regression Analysis (Ch 2)

9/11 Two-Variable Regression Model: The Problem of Estimation (Ch 3 and Ch 4, including Appendix 4A)

9/18 Two-Variable Regression Model: Hypothesis Testing (Ch 5)

9/25 No Class – Yom Kippur

**Project 1 Due**

10/2 Multiple Regression Model: The Problem of Estimation/Inference (Ch 7 & Ch 8)

10/9 Multiple Regression Model Using Matrix Algebra

**10/16 Test One (Midterm Exam)**

10/23 Multiple Regression Model: Dummy Variables and Nonlinear Models (Ch 6 & Ch 9 & Ch 14)

10/30 Multicollinearity and Heteroskedasticity (Ch 10, Ch 11)

11/6 Autocorrelation (Ch 12)

**Project 2 Due**

11/13 Specification and Diagnostic Testing (Ch 13)

