Syllabus

Introduction to Econometrics - Economics 4818-001
Summer Term A 2007, MTWRF 12:45-2:20, Gugg 205

Eric Stuen, Instructor

Phone: 303-735-0985
E-mail: eric.stuen@colorado.edu

http://www.colorado.edu/academics/honorcode. Cheating on the exams is strictly forbidden. You may help each other complete the econometrics project (see below), but the draft you turn in must be original; plagiarism of anyone, both inside or outside the class, is a violation not only of the University Honor Code but also of your academic integrity. In general, collaboration on the problem sets and computer exercises is permitted, although separate assignments must be received from each of you. All assignments must be submitted in class, in person, on the day they are due, unless you notify me in advance of a reason that you must be absent.

In accordance with the recommendations from Disability Services, I will make reasonable accommodations for students with disabilities. If you have a disability and anticipate requiring changes in

1. choose an economic relationship to study
2. find data that describe the related variables
3. estimate the direction and magnitude of the relationship, and
4. write a paper about the relationship based on your estimates.
Let me describe in each of these steps in detail:

(1) Choose an economic relationship to study.

This is entirely up to you. The relationship doesn't have to be novel, and you can even duplicate studies that have been published in economic journals. Plagiarism, whether it is of a professional publication or of another undergraduate student, is of course strictly prohibited. The difference between duplication and plagiarism is that while you may choose the same relationship for part (1) as another study, the other parts must be unique to your paper, so that you end up studying the same relationship in a different way. Examples of relationships to study include demand functions for a particular product, labor supply in a particular market, the pricing of environmental public goods, household outcomes in a developing country or even a relationship between macroeconomic variables (interest and inflation, GDP growth and unemployment, etc). Many examples will be given in class. Think broadly when picking your topic. In general, you will want to study a causal relationship: your dependent variable should be some economic behavior that people exhibit, and your independent variables should be any variables, economic or not, that may influence such economic behavior. The more sophisticated your chosen relationship, the

This is a partial list, and I encourage you to look for data on your own. Another

The other assignments include problem sets, computer exercises, in-class quizzes and a paper assessment. Problem sets of four to six questions will be chosen from the text. Problem sets may be handwritten, but should be legible. These assignments will be posted on the course website, as will answer keys after the due date. The due dates are shown on the schedule below. We will spend some time in class discussing the answers to each assignment, and students may volunteer to demonstrate the problems for extra credit. Periodically we will have in-class quizzes and some unannounced extra-credit as well, which will be a small portion of the problem sets grade. The paper assessment will consist of answering a series of questions about a journal article (assigned by me), as a way to become familiar with the type of research done with econometrics.

The computer exercises are assignments that will also be posted online, and will be done with a computer program. These must be typed, and may be done jointly with a partner. The recommended program is E-views, which is installed in the department computer lab. A student version of E-views may be purchased for about $30.

Tentative Course Schedule
Text chapters to be discussed are in parentheses. Assignments are in bold-case. Due dates are in italics.

6/4/07: Introduction (Ch. 1), Statistics Review (Appendices A and B)
6/5: **Quiz 1,** Statistics Review, (Appendices B and C), Simple linear regression (2.1, 2.2)
6/6: *Computer Exercise 1 Due,* Functional Form, Properties of OLS (2.3, 2.4, 2.5)
6/7: Multiple Linear Regression (3.1, 3.2)
6/8: *Problem Set 1 Due,* Algebra and Assumptions of OLS (3.2, 3.3)

6/11: **No Class**
6/12: **Quiz 2,** Review Problem Set 1, Irrelevant variables and omitted variable bias, Unbiasedness and efficiency of OLS (3.3, 3.5)
6/13: *Computer Exercise 2 Due* , Variance of OLS estimators, Multicollinearity, Inference of a single parameter with OLS (4.1, 4.2)
6/14: *Paper Assessment 1 Due,* Two-sided tests and confidence intervals (4.2, 4.3), F-tests (4.5)
6/15: *Problem Set 2 Due*, Special Tests, Interpreting Regressions (4.4, 4.6), **Econometrics project introduced;** topics discussion, Consistency (5.1)

6/18: Review Problem Set 2, Asymptotic normality and effi

6/25: Serial Correlation (12.1), Testing for serial correlation (12.2), Correcting for serial correlation (12.3)

6/26: Differencing time series (12.5), Heteroskedasticity in cross-sectional models (8.1, 8.2), Testing for heteroskedasticity (8.3)

6/27: ***Econometrics Project Due*,** Correcting estimates with heteroskedastic errors (8.4)

6/28: Endogeneity and functional form (9.1), Proxy variables (9.2)

6/29: ***Problem Set 3 Due,*** Measurement error (9.3)

7/2: **No Class**

7/3: **Quiz 4**, Sampling Bias (9.4)

7/4: Happy Independence Day

7/5: ***Problem Set 4 Due,*** Review Problem Set 3, General Review, **Evening Review Session (2 hrs)**

7/6: **FINAL EXAM** (12:45 PM)