EC 508. ECONOMETRICS
Professor R Lucas
Fall 2009
Monday and Wednesday 8.30-10
Room GCB 205

Office hours

Monday 1-2 & Friday 8-10: Room 500, 264 Bay State Rd.

Course content

EC508 is an introduction to regression analysis for economists. The course will start with the basic theory of ordinary least squares regression, inference from these estimates, specification and interpretation of multiple regression estimates. Following this, various problems in estimation, both in cross-sectional and time-series data, will be considered, including: collinearity, heteroscedasticity, autocorrelation and errors in measurement. Other topics to be covered include dependent dummy variables, distributed lags and estimation of simultaneous systems. Throughout, students will use Stata software to explore these estimation methods.

Preparation

Math: Matrix algebra will not be used. However, students will be expected to be comfortable using basic algebra (such as polynomials, summation notation and logarithms) and some differential calculus (including partial derivatives and first-order conditions for minimization).

Statistics: A brief review will be offered, but students should be familiar with the normal distribution, t-statistics and F-statistics and their use in hypothesis testing.

Economics: Familiarity with basic micro and macro economics will be assumed.

Requirements

The requirements for this course are threefold: a midterm examination, a final examination and a series of problem sets.

The mid-term examination will be held during class time on **Wednesday, October 14**.
The final examination is scheduled on **Wednesday, December 16, 12.30-2.30.**
(Final to be confirmed by Registrar).

The grade for the course is determined entirely by your examination results. The mid-term examination result will comprise 40 percent of the total grade. The final examination will comprise the remaining 60 percent of the grade. All exams are cumulative.

All examinations are required. The only excuses for missing an exam are serious illness or a family emergency. Students who have a legitimate excuse to miss an exam must provide documentation. Failure to provide such documentation will result in a grade of zero on that exam. No make-up exam will be set for the midterms. Instead, students unable to attend the midterm examination for a documented reason will receive a course grade determined by performance on the remaining examinations.

Text:

The required textbook for this course is:

D.N. Gujarati, Basic Econometrics.

This book is available at the Barnes and Noble at BU Bookstore

Academic conduct

You need to read the CAS Academic Conduct Code, which you can pick up in room CAS B3. Academic misconduct involves not only direct cheating on tests, but some more subtle acts as well. All work handed in for credit must be your own, with the exception that you may quote or paraphrase from other sources if you also cite the reference and page number. (It is not permissible, however, to use another student's work even if you cite that work.) Your consultations with classmates should be limited to general discussions. I will report cases of suspected academic misconduct to the Dean's Office. Confirmed cases of misconduct will result in a failing grade on the exam or assignment.

Topics and Readings

September 2	Organization meeting
September 9	Chapter 1: Nature of Regression Analysis
	Chapter 2: Some Basic Ideas
September 14	Chapter 3 (including appendix): The Problem of Estimation
September 16	Chapter 3 (continued)
September 21	Chapter 4: Classical Normal Linear Regression Model
September 23	An introduction to Stata
September 28	Chapter 5: Interval Estimation and Hypothesis Testing
September 30	Chapter 6: Specification and Interpretation
October 5	Chapter 6 (continued).
October 7	Chapter 7: Multiple Regression
October 13	Chapter 8: The Problem of Inference
October 14	**Midterm Exam**
October 19	Chapter 9: Dummy Variables
October 21	Chapter 10: Multicollinearity
October 26	Chapter 11: Heteroscedasticity
October 28	Chapter 12: Autocorrelation
November 2	Chapter 13: Specification and Measurement Errors
November 4	Chapter 15: Dependent Dummy Variables
November 9	Chapter 16: Panel Data
November 16	Chapter 17: Distributed Lags

November 18	Chapter 17: Distributed Lags (cont'd)
November 23	Chapter 18: Simultaneous Equation Models
November 30	Chapter 19: Identification
December 2	Chapter 20: Estimating Simultaneous Equation Models
December 7	Chapter 21: Time Series
December 9	Review
December 16	**Final Exam**