Tufts University
Department of Economics

EC 202 **Econometrics** **Prof. D. Garman**
Spring 2006

Class: M W 1:30-2:45 in Braker 226
Office Hours: M Tu F 10:30-12:00 in Braker 317
Email: david.garman@tufts.edu Phone: x72683

Primary Text (Required):

(V) Verbeek, A Guide to Modern Econometrics, 2nd Edition, Wiley, 2004.

Reference (Optional):

(W) Wooldridge, *Introductory Econometrics*, 2nd Edition, Thomson South-Western, 2003
or
(W) Wooldridge, *Introductory Econometrics*, 3rd Edition, Thomson South-Western, 2006.

Stata Documentation (Optional):

Hamilton, *Statistics with Stata (Updated for Version 8)*, Thomson Brooks/Cole, 2004
or
Hamilton, *Statistics with Stata (Updated for Version 9)*, Thomson Brooks/Cole, 2006.

The prerequisites for this course are statistics, and a bit of matrix algebra and calculus.

The first few weeks of this course cover a model and estimation technique that provide the basis for much of the empirical work that is done in economics. You will learn how this estimation technique is derived and its statistical properties under "ideal" conditions. The remainder of the course covers problems that arise when an estimation problem does not conform to these ideal conditions. We will study the properties of our standard estimator when key theoretical assumptions are not met and alternate estimators that have better statistical properties under these conditions.

The only way to learn econometrics is by working problems and applying the techniques. I will assign 2-3 problems to be completed and submitted each week. Some of these problems will be applications of the basic theory and some will be computer assignments using Stata. More information about the computer software and assignments will be distributed in class.

In addition to the homework assignments, we will have a "5 minute" weekly quiz, two midterm exams, and a final exam. Your course grade will be computed by giving 10% weight to your homework/quiz average, and 30% weight to each midterm and to the final exam. All exams are closed book, closed notes.

An outline of the course topics with approximate lecture dates is presented below. Following the topics are the relevant sections of readings.

(Over)

Outline

Introduction to Linear Regression (1/23, 1/25, 1/30, 2/1)
V Ch. 2
W Chs. 2 – 4

Interpreting and Comparing Regression Models (2/6, 2/8, 2/13)
V Ch. 3
W Ch. 6, 7.1 – 7.3

Midterm Exam I (Wednesday, 2/15) V Chs. 2 – 3

No Class (2/23)

Heteroskedasticity and Autocorrelation (2/22, 2/27, 3/1, 3/6)
V Ch. 4
W Chs. 8.1 – 8.4, 12.1 – 12.4

Endogeneity, Instrumental Variables and GMM (3/8, 3/13, 3/15, 3/27)
V Ch. 5
W Ch. 15.1 – 15.7, 16.1 – 16.5 ; App. C4

Spring Break (3/20, 3/22)

Midterm Exam II (Wednesday, 3/29) V Chs. 4 – 5

Maximum Likelihood Estimation and Specification Tests (4/3, 4/5)
V Ch. 6.1 – 6.3
W App. C4 ; Ch. 3.3, 5.2, 8.3, 12.2

Models with Limited Dependent Variables (4/10, 4/12)
V Ch. 7.1 – 7.2
W Ch. 17.1

No Class (4/17)

Univariate Time Series Models (4/19, 4/24)
V Ch. 8.1 – 8.5
W Ch. 18.2

Multivariate Time Series Models (4/26, 5/1)
V Ch. 9.1 – 9.3
W Ch. 18.3 – 18.4

Final Exam (Monday, 5/9, 12:00 – 2:00 pm) V Chs. 6 – 9