

BOSTON COLLEGE
Department of Economics

EC 760B: Econometrics I
Prof. Baum
Mr. Franke

Spring 1997
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Office hrs F 1-3 and by appt.

Required Text: Greene, *Econometric Analysis*, 3d ed. (G)

Other Useful Texts:

Johnston, *Econometric Methods*, 3d edition,
Kmenta, *Elements of Econometrics*,
Pindyck & Rubinfeld, *Econometric Models and Economic Forecasts*

Objectives: This course and the following (EC761) provides the required Ph.D. level introduction to econometric theory and methods. It takes as prerequisite the fundamentals of mathematical statistics addressed in EC 730 and EC760A. EC 760B introduces the econometric theory underlying the most common research methodology in economics -- regression analysis -- with variations and extensions. It is designed to build a solid base of theoretical understanding, and exercise this theory with economic applications.

A sizable segment of your requirements in the course will include use of an econometric computer package (either Stata 5.0 or RATS 4.20 on fmisc.bc.edu) for the solution of applied problems, and discussion of the empirical findings. Empirical assignments which develop these skills are an important part of the course.

Requirements: Problem sets, due every two or three classes, total 30%
Final exam, 70%

Notes : Problem sets will not be accepted after their due dates.
Work on problem sets should be largely your own.

Topics to be Covered (references to G)

1. Prerequisites: Matrix algebra, probability theory, statistical inference
(G § 2, 3, 4)
2. G §6.1-6.8: Least squares regression
Properties of LS estimators in finite samples
Asymptotic results for LS
3. G § 7: Inference and prediction
4. G § 8.1-8.4: Dummy variables
Nonlinearities in variables
Specification analysis
5. G § 9.1-9.2 Data problems
6. G § 11.1-11.4 Nonspherical disturbances and generalized LS
7. G § 12-13 Heteroskedasticity and autocorrelated errors
(as time permits; may be taken up in EC761)

