BOSTON COLLEGE
Department of Economics

EC 728: Econometrics   Spring 1996
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Office hrs F 2-4 and by appt.

Required Text: Johnston, *Econometric Methods*, 3d edition (J),
and Hypercard notes to be distributed in class (and available on Carney Hall fileserver SLEEK, volume Sleek1:[Courseware/Data]).
Other Useful Texts: Greene, *Econometrics Analysis* (G);
Kmenta, *Elements of Econometrics* (K);
Pindyck & Rubinfeld, *Econometric Models and Economic Forecasts* (PR)

Objectives: This course provides the required Ph.D. level introduction to econometric theory and methods. It takes as prerequisite the fundamentals of mathematical statistics addressed in EC 727. EC 728 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.

Appreciation of the theoretical rigor of econometrics is absolutely essential if you are to become a competent economic researcher. Almost all Ph.D. students eventually use (or misuse?) econometric methods in completing their dissertation, and as an important component of their professional career. Econometrics is both an art and a science, and practice with its techniques is the key to its appreciation. Accordingly, a sizable segment of your requirements in the course will include use of an econometric computer package for the solution of applied problems, and discussion of the empirical findings. Instruction in the use of the VAX/AXP Cluster computer system and a leading econometrics package -- RATS -- will be provided.

     Requirements: Midterm exam, 25% of grade
                                    Problem sets, due every two weeks or so, total 40%
                                    Final exam, 35%

     Notes :   Problem sets will not be accepted after their due dates.
                                    Work on problem sets should be largely your own.
                                    No makeup exams will be given.

Topics to be Covered (references to J, G, K, PR given; §=chapter)
1. Prerequisites: small-sample properties of estimators
                              normal, chi-squared, t, and F distributions
                              hypothesis testing and confidence intervals
                              (G §3, K part 1, PR §2)
2. Linear algebra: J §4, G §2.
3. Two-variable regression and correlation: J §2, G §5, PR §3, K §7.
4. Multiple regression: J §3,5, G §6, PR §4, K §10.
5. Linear restrictions, dummy variables: J §5,6,10.3, G §7, PR §5, K §11.
6. Specification error: J §6.6, G §8, PR §5, K §10.4.
7. Generalized least squares: J §8, G §13-15,17, PR §6, K §8,12.
8. Maximum Likelihood, Errors in Variables: J §7, §10.6, G §10, K §11.8.
9. Simultaneous equation systems: J §11, G §20, PR §7, K §9,11,13.