ECONOMICS 240B
Introduction to Statistics and Econometrics

This is the second semester of the core sequence in econometrics (a.k.a. quantitative methods), which develops the procedures used for empirical implementation and validation of economic relationships. Successful completion of Economics 240A or a comparable graduate-level course (e.g., Statistics 200B) is a prerequisite.

The grade for the first half of the course will be based upon (approximately) biweekly problem sets (20%) and an exam (80%). The first midterm exam will be given in class on March 13, and the second is scheduled for May 8; no final exam will be given. (Any time conflicts should be discussed with the instructors well in advance of the exam date.) The required text for this half of the course will be *An Introduction to Classical Econometric Theory* by Paul Ruud ; as supplemental texts, *A Course in Econometrics* by Arthur Goldberger and *Econometric Analysis, Fifth Edition* by W. Greene may be useful, and lecture notes for many of the topics covered will be posted on the course website. Some of the problem sets will require use of statistical packages on the Econometric Microcomputer Laboratory (EML); details will be given in the discussion sections.

COURSE OUTLINE FOR FIRST HALF OF SEMESTER

Weeks	Topic	Readings
1-2	Asymptotic Theory of Least Squares	Ruud, Ch. 13, Section 16.6.
3	Time Series Models	Ruud, Ch. 25
4-6	Generalized Least Squares, Seemingly Unrelated Regressions, Heteroskedasticity, Serial Correlation, Panel Data.	Ruud, Sec. 26.2, Ch 18, 19, 22
7	Instrumental Variables Estimation	Ruud, Ch. 20.

LECTURE PLAN
(very preliminary)

Jan. 18: Review of Classical Least Squares

Jan. 23: Introduction to Asymptotic Theory, Limit and Slutsky Theorems

Jan. 25: Asymptotics of Best Linear Predictor Estimator

Jan. 30: Time Series Models

Feb. 1: Estimation of Time Series Models

Feb. 6: Aitken's Generalized Least Squares

Feb. 8: Zellner's Seemingly Unrelated Regression Model

Feb. 13: Models and Consequences of Heteroskedasticity

Feb. 15: Testing and Corrections for Heteroskedasticity

Feb. 22: Models and Consequences of Serial Correlation

Feb. 27: Testing and Corrections for Serial Correlation

Mar. 1: Panel Data Models

Mar. 6: Correlated Regressors and Instrumental Variables

Mar. 8: Two-Stage Least Squares and Generalized Method of Moments

Mar. 13: Midterm Exam