

Economics 8838
Dr. Waldman
Room 222, Economics

August 24, 2004
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Wed. 8:30 - 9:30; Thurs. 3:30-4:30

Course Information

General: Economics 8838 is one of the two courses in the field of econometrics offered by the Department of Economics. Course material will emphasize methods of estimation in cross-section and panel data sets, and the practical application of these methods. Topics include but may not be limited to: discrete and limited dependent variables; sample selection models; panel data; and errors in variables. Throughout, students are expected to be able to write computer programs in GAUSS (especially using the Maxlik module) to implement the estimators and tests studied in this course.

Prerequisites: Economics 7818 and 7828.

Requirements: There will be two lectures weekly, meeting Tuesday and Thursday from 11:00 to 12:15. There will be a midterm exam, Thursday, October 21, a final exam, and periodic computer exercises throughout the semester.

Grading: Grades will be determined approximately as follows:

Midterm:	30%
Final exam:	35%
Problem Sets:	25%
Residual:*	10%

*This includes class participation, contact in office hours, subjective scoring of written work, etc.

Tentative Course Outline:

- 0 Overview and review of the classical, normal linear regression model, including maximum likelihood estimation

Problem Set #1: Introduction to Data Analysis with Gauss

- I Discrete and Limited Endogenous Variables - Part A
 - Binary probit and logit
 - Multiple outcomes
 - The Tobit model

Problem Set #2: Discrete and Limited Dependent Variables and the Value of Information

- II Panel Data - Part A
 - Structure and Notation

Fixed and random effects

Problem Set #3: Panel Data Models

III Discrete and Limited Endogenous Variables - Part B

Simultaneous equations models with discrete and limited endogenous variables

Problem Set #4: Program Participation and Energy Conservation

IV Errors in Variables

The classical errors in variables model

Using group means as variables

Problem Set #5: Using Engineering Estimates in Conservation Models

V Combining Information in ML Estimation

Mixed discrete/continuous models.

Problem Set #6: Question Response Time in Conjoint Estimation of Random Utility Models

VI Discrete and Limited Endogenous Variables - Part C

Introduction to count data; Poisson and gamma models

Negative binomial models

Readings and texts:

Readings from journals/manuscripts will be assigned during the semester. Texts I have found useful:

Takeshi Amemiya, *Introduction to Statistics and Econometrics*, Harvard University Press, 1994.

Badi H. Baltagi, *Econometrics of Panel Data*, Wiley, 1995.

William Greene, *Econometric Analysis*, Prentice Hall, 2000.

Arthur Goldberger, *A Course in Econometrics*, Harvard University Press, 1991.

G. S. Maddala, *Limited-dependent and Qualitative Variables in Econometrics*, Cambridge University Press, 1983.

Train, Kenneth, material online at <http://emlab.berkeley.edu/users/train/>.