Course Information

General: Economics 8838 is the second of 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, or equivalent.

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 19, a final exam, and periodic problem sets 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 1-2

Problem Set #1: Introduction to Data Analysis with Gauss

I Discrete and Limited Endogenous Variables - Part A 3-5
  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  Panel Data - Part B
   Instrumental Variable Estimation

     Problem Set #6: The Hausman-Taylor Estimator

VI  Discrete and Limited Endogenous Variables - Part C
    Introduction to count data; Poisson and gamma models
    Negative binomial models

     Problem Set #7: Question Response Time in Conjoint Estimation of Random Utility Models

Readings and texts:

Readings from journals/manuscripts will be assigned during the semester. Texts (not required) I have found useful:


