

Xiaodong Liu, Assistant Professor

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Location: Economics 5  
Meeting Times: MW 12:30 – 1:45 pm  
Office Hours: M 2:00 – 5:00 pm

**Course Description:**

Econ 8838 is an advanced level econometrics course that focuses on the analysis of individual-level data. It covers econometric methods based on the general linear and nonlinear models for cross-section data and panel data. If time permits, spatial and social interaction models will be introduced.

**Text:**

*Microeconometrics*, A. C. Cameron and P. K. Trivedi, Cambridge, 2005.

**Other Useful Books:**

T. Amemiya, *Advanced Econometrics*, Harvard University Press, 1985.

R. Davidson and J. G. MacKinnon, *Econometric Theory and Methods*, Oxford University Press, 2004.

William H. Greene, *Econometric Analysis*, 5th edition, Prentice Hall, 2003.

**Prerequisites:**

Economics 7818 and 7828, and the material in Chapter 4 and Appendix A of the text.

**Assessment:**

There will be a midterm exam, a final exam, and periodic problem sets. Some assignments will involve the use of computer packages to estimate econometric models.

1. Homework assignments (15%)
2. Midterm examination (40%)
3. Final Examination (45%)

**Tentative Course Outline:**

1. Review of Linear Models (Text: Chapter 4).  
OLS and WLS estimation.
2. M-Estimation (Text: Chapter 5).  
ML and NLS estimation.
3. Discrete and Limited Endogenous Variables - Part A (Text: Chapters 14 and 15).  
Probit and logit models; multinomial models.
4. Discrete and Limited Endogenous Variables - Part B (Text: Chapter 16).  
Models for censored and selected samples.
5. Generalized Method of Moments (Text: Chapter 6).  
2SLS and GMM estimation.
6. Linear Panel Data Models (Text: Chapters 21 and 22).  
Fixed and random effects models.
7. Spatial and Social Interaction Models.  
Spatial autoregressive models; identification and estimation of social networks.

**University Policies:**