Fall 2024

Prof. Xiaodong Liu

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Location: ECON 5
Meeting Times: MW 1:00-2:15
Office Hours: MW 12:15-1:00

This is a second-year graduate 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. The course begins with a review of M-estimators, followed by their application in discrete choice models, panel data models, and network models.

Econ 7828.

Davidson, R. and J. G. Mackinnon, 2004, *Econometric Theory and Methods*.

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

There will be a midterm exam, a final exam, and periodic problem sets.

1. Homework assignments (20%)
2. Midterm examination (40%)
3. Final Examination (40%)

1. Review of M-estimators
    a. GMM estimators for linear regression models
    b. GMM estimators for nonlinear models
    c. Asymptotic properties of ML estimators
    d. Hypothesis testing
    a. The asymptotic theory of the three classical tests
    b. ML estimation of models with autoregressive errors
2. Discrete and Limited Dependent Variables
    a. Binary response models
    b. Models for unordered multiple choices
    c. Models for censored and truncated data
    d. Sample selectivity
    e. Duration models

3. Panel Data Models
    a. Pooled models
    b. Fixed effects and random effects models
    c. Dynamic models
    d. Nonlinear panel data models
4. Spatial and Social Network Models
    a. Spatial autoregressive models
    b. IV, GMM and ML estimation
    c. Social interaction models
    d. Network formation models

Rel i g

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See the campus policy regarding religious observances for full details.

Mental Health and Wellness

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care.
The Academic Live Care site also provides information about additional wellness services on campus that are available to students.