Graduate Program in Economics

IDEA

Course: Microeconometrics

Faculty: Hanna Wang

Term: 1st Semester

Class Time: Tuesdays and Thursdays 10.00-11.30am

Office Hours: upon request

Description:

This course introduces the students to frontier econometric methods for the analysis of cross-sectional and panel micro-data. The course explores different techniques that are used in the analysis of discrete, continuous, and limited dependent outcomes, as well as policy evaluation tools.

Objective:

The main goal of this course is to provide students with a frontier econometric toolbox that allows them to produce high level empirical analyses. This course is suitable for any second year student, including those with empirical interests, but also for macro- and micro-oriented students who aim at providing empirical foundations to their research. The course devotes a special emphasis in the implementation of the different techniques, with an array of problem sets in which students are expected to use each of the techniques presented in class in the analysis of real data.

Outline:

1. Introduction and a brief review of relevant tools
    a. Overview
    b. Maximum likelihood
    c. Generalized Method of Moments (GMM)
    d. Numerical methods
2. Panel data
    a. Introduction
    b. Static models
    c. Dynamic models
3. Discrete choice
    a. Binary outcome models
    b. Multinomial models
    c. Endogenous variables
    d. Binary models for panel data
4. Censoring, truncation, and selection
    a. Introduction
    b. Censoring and truncation. The Tobit model
    c. Selection
5. Duration models
    a. Introduction
    b. The hazard function
    c. Conditional hazard functions: the proportional hazard model
    d. Likelihood functions
    e. Unobserved heterogeneity
    f. Multiple exit discrete duration models
6. Policy Evaluation Methods: Treatment Effects
    a. Potential Outcomes and Causality
    b. Social Experiments
    c. Matching
    d. Instrumental Variables
    e. Regression Discontinuity
    f. Difference in Differences

Grading:

50% Final exam. 25% Problem sets. 25% Paper presentation.

References:

(These are core references. References for applications to be given during the course)

General references

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Panel data

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Discrete choice

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Models with censored variables

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Duration

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