Course Description:

The purpose of this course is to help students understand modern empirical techniques used in labor economics. We will focus on two topics:

(1) econometric identification issues in empirical microeconomics--how economists estimate causal effects using observational data

(2) the basic job search model and sufficient statistics approach--how integration of reduced-form estimates and economic theories can help inform the welfare analysis.

Course Schedule:

Lecture 1: Introduction (9/21)

- Meanings of Identification
- Reduced Form vs. Structural Model Identification

Lecture 2: Review for Linear Regression (9/28)

- Omitted Variable Bias
- Practical Regression Hints
- Krueger (1993) + DiNardo and Pischke (1997)

Lecture 3: Randomized Control Trials (10/5)

- Counterfactual Framework
- Regression and Causality
- LaLonde (1986) + Smith and Todd (2005)

Lecture 4: Panel Data and Difference-in-Differences I (10/12)

- Fixed Effect Estimation
- Difference-in-Differences
- Chu (2015) and Dickert-Conlin, Elder, and Moore (2011)

First Presentations (10/19) -- Topic

Lecture 5: Synthetic Control and Standard Errors I (10/26)

- Synthetic Control Method
- Standard Errors: How Should We View Uncertainty in DD Settings?

Problem Set 1

Lecture 6: Minimum Wage (11/2)

- Standard Errors II
- Aaronson, French, Sorkin, and To (2018) + Meer and West (2015)

Lecture 7: Instrumental Variables (11/9)

- IV and Simultaneous Equations
- IV and LATE

- Angrist and Evans (1998): Labor Supply and Fertility

Lecture 8: Regression Discontinuity (Kink) Design I (11/16)

- Problem Set 1
- Identifying Assumptions and Estimation
- IV and RD

Mid-Term Presentations (11/23) -- Model and Data

Lecture 9: Regression Discontinuity (Kink) Design II (11/30)

- Extrapolation of RD
- Regression Kink Design
- Unemployment Insurance

Lecture 10: Decomposition Methods in Economics (12/7)

- Oaxaca-Blinder Decomposition
- DFL Reweighting Method
- Wage Density Decomposition

Problem Set 2

Lecture 11: Machine Learning and High-Dimensional Data (12/14)

- Bias-Variance Decomposition
- Shrinkage Methods
- Generalized Synthetic Control

Lecture 12: Sufficient Statistic Approach for Welfare Analysis (12/21)

- Basic Search Model
- Optimal UI: Baily-Chetty Formula

Problem Set 3

Lecture 13: Sufficient Statistic Approach for Welfare Analysis (12/28)

- Overconfidence and Optimal UI
- Salience and Taxation

Final Presentations I (1/4)

Final Presentations II (1/11)