This course covers topics in econometrics and empirical modeling that are likely to be useful to applied researchers working with cross-section and panel data.

Course requirements and grading: Students are expected to do the readings. In addition, there are 4 graded problem sets, which must be handed in on time for course credit.

Readings are listed below by subject area (*=in the reading packet; †=available through JSTOR; ‡=MIT libraries e-journal; w=mimeo on the web; NBER working papers are available from www.nber.org). Articles for the first and second halves are in separate packets.

FIRST HALF (Angrist)

*Parts I-IV correspond to Empirical Strategies lecture notes distributed in class.

I. REGRESSION AND THE CEF


II. CAUSALITY, REGRESSION, REGRESSION VS. MATCHING


†D. Rubin, “Comment: Neyman (1923) and Causal Inference in Experiments and Observational Studies,” Statistical Science 5[4], November 1990, 472-480. Also, Neyman (1923) translated in same issue.


III. ESTIMATING THE EFFECT OF TRAINING PROGRAMS


IV. INSTRUMENTAL VARIABLES

A. Models with constant effects; the Wald estimator, grouping, and Two-Sample IV


Wooldridge, 2002, Chapter 5.

B. Instrumental Variables with Heterogeneous Potential Outcomes


C. Additional IV Examples


V. MISCELLANEOUS TOPICS

A. Bias of 2SLS


Bowden and Turkington, Instrumental Variables, Cambridge University Press, 1984, Section 4.8


B. Clustering and the Moulton problem

Grouped Trials and Data


Serial Correlation and Differences-in-Differences


C. Limited Dependent Variables and Quantile Treatment Effects


D. The Propensity Score Paradox


E. Regression-Discontinuity Methods

* J. Angrist and V. Lavy, ”Using Maimonides' Rule to Estimate the Effect of Class Size on Student Achievement,” QJE, May 1999.


