Instructor: Shakeeb Khan
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Office Hours: By appointment.

Time and location: T,R, 10:05-11:20 AM


Other Useful Books:

Grading: There will be a few assignments, a take home final.

Scheme:
- Assignments: 25%
- Take Home Final: 75%
Course Objectives

Topics in microeconometrics is part of the second-year sequence in econometric methodology. This course will primarily cover non-linear statistical models. While applications of these models are most often found in microeconomic fields such as labour, i.o., and public finance, macroeconomists who are interested in incorporating heterogeneity and non-linearity into their models are also beginning to apply some of the methodologies we’ll talk about. The course is intended both for students specializing in econometric theory and for students interested in applying the statistical methods we develop to (micro or macro) economic data.

The course will be (crudely) divided into two parts. The first part will focus primarily on second year phd “textbook” material, including parametric (review), semiparametric, and nonparametric methods. The second part will introduce more recent and advanced topics, such as treatment effects and, time permitting, endogeneity in nonlinear models.

Course Outline

1. **Latent Variable Models and Simulation Based Methods**: discrete response models; censored and truncated response models; sample selection models; parametric transformation models; parametric estimation methods.

   Wooldridge, Chapter 15.1-15.6, 15.9-15.10, 16.1-16.5, 17.1-17.6.;
   Amemiya, Chapter 10.

2. **Semiparametric Methods**: quantile, symmetry, independence and index restrictions and estimators; partially linear and nonparametric transformation modelling and estimation; semiparametric efficiency bounds;
3. **Nonparametric Methods**: nonparametric density and regression estimation; kernel, nearest neighbor, series and local polynomial estimation methods; optimal local and global rates of convergence;

Pagan and Ullah (1999), Chapters 1-3.


4. **Treatment Effects**: Average Treatment Effects (ATE), Selection on Observables, Local Average Treatment Effects (LATE), Propensity Score Weighting.

Wooldridge, 18.


Angrist and Pischke, 3,4.
5. **Endogeneity**: Instrumental variables, control function, nonlinear models, completeness.


http://www.ucl.ac.uk/~uctp39a/Blundell-Powell-Chpt8.pdf

