American University
5 day course
Methods for Microeconometrics: Basic Methods, Panel Data, Discrete Choice Models
William Greene (NYU)
Each Day:
9:00 – 10:30 Session 1
10:30 – 11:00 Break
11:00 – 12:30 Session 2
12:30 - 1:30 Lunch
1:30 - 3:00 Session 3
3:00 - 3:30 Break
3:30 - 5:00 Lab session

Day 1: May 14 – Basic statistics, linear regression, panel data for linear models
- Session 1: Review
  - Statistics, quantiles, kernel density estimator
  - Linear Regression Model: Basic Methods estimation and inference
  - Bayesian vs. classical methods
  - Quantile regression
  - Bootstrapping
- Session 2: Panel data,
  - Fixed and random effects linear models
  - Introduction to hierarchical models and random parameters
- Session 3: Panel data methods:
  - Endogeneity, IV
  - Hausman and Taylor
  - Arellano/Bond/Bover dynamic models
  - Difference in Difference
- Lab 1: Applications of linear regression and basic panel data methods

Day 2: May 15 - Nonlinear models, binary and ordered choice, count data
- Session 1: Nonlinear Models
  - Estimation and inference in nonlinear models
  - Introduction to binary choice models
- Session 2: Binary and ordered choice models
  - Specification and estimation
  - Inference
  - Analysis of nonlinear models
  - Ordered choice
- Session 3: Models for count data.
  - Poisson and negative binomial
  - Two part models: zero inflation, hurdle models,
- Lab 2: Applications of binary and ordered choice and count data models

Day 3: May 16 Panel data and nonlinear models
- Session 1 Fixed effects with nonlinear models
  - Probit model with fixed effects
  - Conditional estimation
  - Unconditional estimation
  - Incidental parameters problem
  - Estimation of models with fixed effects
- Session 2 Random effects in nonlinear models
  - parameters and simulation
  - quadrature
  - cluster estimator
- Session 3 Random parameters and hierarchical models
- Lab 3 Applications of nonlinear models for panel data

Day 4: May 17 – Extensions of and applications of discrete choice and panel data models
- Sessions 1-3 Discrete choice
  - Sample selection in nonlinear models
  - Sample selection in panel data models
  - Missing data methods
  - Latent class models
- Lab 4: Discrete choice and panel data methods

Day 5: May 18 – Multinomial choice. Stated and revealed preference, mixed logit, etc.
- Session 1: Multinomial choice models
  - Random utility
  - Random regret
  - Multinomial logit model
  - Multinomial probit
- Session 2: Multinomial choice models
  - Nested logit
  - Heteroscedasticity and heterogeneity
  - Extensions of multinomial choice
- Session 3: Mixed logit
  - Random parameters
  - Latent class
  - Generalized mixed logit
  - Stated choice applications
- Lab 5: Multinomial choice models