Econ 418 & Econ 418 P

Econometric Methods

Prerequisites:

- Econ 218: Statistics for Economists
- Econ 316: Mathematics for Economists II
- Econ 318: Introduction to Econometrics

Recommended Text:


Other Texts:

Course Outline:

Topics to be given in Econ 418 P

- Econometric Model Building
  - Some Illustrative Models.
  - Structural Form and Reduced Form.
  - Stochastic Models.
  - General Representation of Simultaneous Equation Models.

- Introduction to Dynamic Models:
  - Distributed Lags.
  - The Autoregressive Distributed-Lag Model.
  - The Partial Adjustment Hypothesis.
  - The Adaptive Expectations Hypothesis.
  - The Rational Expectations Hypothesis.
  - Stochastic Dynamic Systems

- The Identification Problem
  - A Demand-Supply Illustration
  - Order and Rank Conditions
  - An Equivalent Order Condition and the Reduced Form
  - Identification by Homogeneous Linear Restrictions.

Topics to be given in Econ 418 with Exercises and Applications in Econ 418 P

- The Regression Model
  - Revision of the Simple Regression Model
  - The General Linear Regression Model

Heteroskedasticity and Autocorrelation

- Departures from the Assumptions of the General Regression Model
  - Generalized Least Squares.
  - Serial Correlation.
  - Heteroskedasticity.
  - Heteroskedasticity and Autocorrelation Consistent Estimates (HAC).
- Forecasting Using the Regression Model
  • Unconditional Forecasting.
  • Forecasting With Autocorrelated Errors.
  • Conditional Forecasting.

- Instrumental Variables and Model Specification
  • Stochastic Regressors.
  • Errors in Variables.
  • Correlation Between Explanatory Variables and the Error Term.

- Testing the Econometric Model
  • Specification Tests.
  • Tests for Causality.
  • Tests for Normality.
  • Testing for Parameter Stability.
  • Testing the Validity of Instruments.

- Maximum Likelihood Estimation
  • The Conceptual Approach
  • ML Estimation of the Linear Model
  • ML Estimation with Nonspherical Disturbances.
  • Some ML Applications

- Non-nested Models and Model Selection
  • Problems in Choosing Between Models.
  • Model Selection Tests.
  • Variance Encompassing and Forecast Encompassing Tests.

- Multiple Equation Models
  • Vector Autoregressions (VAR)
  • Vector Error Correction Models
  • The Two-Stage Least Squares.
  • The Wu-Hausman Test: 2 SLS vs. OLS.
  • Seemingly Unrelated Regression Model.
  • Other Simultaneous Equation Models.

Mid –semester Exam:


There will be no make-up exams.