

## **ECO-921 Topics in Econometrics**

### **Course Description**

This course provides an up-to-date coverage of the various econometric issues that arise in the analysis of different models. It deals primarily with the asymptotic distribution theory of nonlinear least squares, the generalized method of moments, and maximum likelihood. Other topics include specification testing, binary response models, panel data methods, simultaneous equations estimators, state space models and Monte Carlo methods. It will also cover advanced econometric techniques like instrumental variable estimation, limited dependent variable models (Probit, Logit, and Tobit models), and panel data techniques (fixed effect and random effect models, dynamic panel data models)

### **Learning Outcomes:**

After completing the course, students should be able to:

- demonstrate understanding of verbal, graphical, mathematical and econometric representation of economic ideas and analysis, including the relationship between them
- demonstrate more extensive knowledge and skills of quantitative or theoretical modeling areas of economics and/or econometrics
- work with abstract concepts and in a context of generality
- demonstrate more extensive knowledge and skills of quantitative economics and econometrics

**Prerequisite:** Applied Econometrics

### **Recommended Books:**

Angrist and Pischke, 2008, *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press

Angus Deaton, 1997, *The Analysis of Household Surveys*, Johns Hopkins University Press

Marno Verbeek, 2008, *Modern Econometrics*, (3rd edition), Wiley  
J.M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, Cambridge University Press (2002)

Badi Baltagi, 2008, *The Econometric Analysis of Panel Data*