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FALL 2011 SYLLABUS
Applied Economics 8211 Econometric Analysis

Course Description: This is the first half of a two semester introduction to the theory and practice of econometrics. The course introduces students to the use of *econometric techniques*, including the basic methods of classical regression analysis and inference. It also presents students with sufficient *econometric theory* to thoroughly understand the techniques they are using. Students are expected to analyze a number of economic data sets using MATLAB®. Lectures will focus on econometric techniques and theory.

Textbook: William W. Greene, *Econometric Analysis* 7 ed. [Pearson 2011]

Prerequisites: Students should have a good background in calculus and basic statistics and basic familiarity with matrix representation and manipulation.

COURSE WEBSITE: http://faculty.apec.umn.edu/gmccullo

Syllabus

Part I. Classical Regression Model

1. The Linear Regression Model (September 7)
   Required Reading: Greene, Chapter 2

2. Least Squares (September 12, 14)
   Required Reading: Greene Ch. 3

3. The Least Squares Estimator I (September 19, 21)
   Required Reading: Greene 4.1 - 4.3

4. The Least Squares Estimator II (September 26, 28)
   Required Reading: Greene 4.4 - 4.8

5. Hypothesis Tests and Model Selection (October 3, 5)
   Required Reading: Greene Ch. 5
   Optional Reading: Hayashi, *Econometrics*, Section 1.4

6. Functional Form and Structural Change (October 10, 12)
   Required Reading: Greene Ch. 6

7. Nonlinear Models (October 17, 19)
   Required Reading: Greene Ch. 7

8. Instrumental Variables (October 24, 26)
   Required Reading: Greene Ch. 8
   Optional Reading: Davidson and MacKinnon, *Econometric Theory and Methods* Ch. 8

MIDTERM QUIZ: *Monday, October 31*

Part II. Generalized Regression and Maximum Likelihood

9. The Generalized Regression Model (November 7, 9)
   Required Reading: Greene Ch. 9

10. Systems of Equations (November 14, 16)
    Required Reading: Greene Ch. 10

11. Models for Panel Data (November 21, 23)
    Required Reading: Greene Ch. 11

12. Maximum Likelihood Estimation (November 28,30)
    Required Reading: Greene Ch. 14

13. Discrete Choice (December 5, 7)
    Required Reading: Greene Ch. 17

14. Serial Correlation (December 12)
    Required Reading: Greene Ch. 20

FINAL QUIZ: *Wednesday, December 14*