Econometrics

Class Time: Thursdays 6:00pm – 8:45pm
Instructor: Victor Ronda
Email: ronda@jhu.edu
Office Hours: By appointment

Course Description: This course focuses on the application of statistical methods to the testing and estimation of economic relationships. After developing the theoretical constructs of classical least squares, common problems encountered when applying this approach, including serial correlation, heteroscedasticity, and multicollinearity, are discussed. Techniques for dealing with these problems are then examined. Models with lagged variables are considered, as is estimation with instrumental variables and two-stage least squares.

- Prerequisites: 440.605 Statistics

Grading: Your grade will be determined by your performance on 4 homework assignments, two mid-term examinations, and a final exam. Problem sets will be assigned throughout the semester and must be turned in by the end of class on the date they are due. Problem sets will count towards 10% of your final grade. Each mid-term will count for 25% and the final exam (which is cumulative) for 40%. Students should feel free to collaborate on problem sets, though each student must submit their own set of answers. Plagiarism or cheating on any course work will automatically result in a failing grade.

Note: Earlier editions may be used, although students must ensure that they answer the proper questions from the 5th edition when completing problem sets.

Computing Requirements: Certain problem set questions require students to report regression outputs. Students are allowed to use the software of their preference, but I will use examples from STATA during class meetings. STATA and other statistical software are available on most machines in the computer labs.
Course Outline and Reading Schedule:

- May 15 Ch. 1, Appendix B and D: Introduction, Statistics Review, Linear Algebra Review and Syllabus
- May 22 Ch. 2.: Bivariate Ordinary Least Squares Regression
- May 29 Ch. 3: Multiple Regression Analysis: Estimation
- June 5 Ch. 4: Multiple Regression Analysis: Inference
- June 12 Mid-term Examination 1
- June 19 Ch. 5, Ch.6: Asymptotics and other issues
- June 26 Ch. 7, Ch. 8: Multiple Regression with Binary Variables and Heteroskedasticity
- July 3: Independence Day Break
- July 10 Ch. 9: Specification and Data Problems
- July 17 Ch. 10: Time series, Serial correlation
- July 24: Mid-term Examination 2
- July 31 Ch.13, Ch.14: Panel data Methods
- August 7 Ch. 15: Instrumental Variables
- August 14 Ch. 16: Simultaneous Equation, Simultaneity
- August 21: Final Examination