

AED ECON 7130: Applied Econometrics I
Spring 2016

Instructor: Abdoul Sam
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Class Time: Tuesday and Thursday 2:20 to 3:40 pm, (Room AA 251)
Lab Time Monday 9:35 to 10:55 am (AA 005)
Office Hours Wednesday 11:00 a.m. to 1:00 p.m.

Course Objective: The purpose of this course is to provide a rigorous introduction to techniques and applications of econometric analysis to first year Ph.D. students.

Course Format: Tuesday and Thursday meetings will mainly focus on the discussion and/or derivation of technical concepts while lab sessions will be primarily devoted to computer applications and the discussion of take-home problems. Applications will be based on both simulated and empirical datasets.

Required Textbook:

William Greene, *Econometric Analysis 7th edition*, Pearson Prentice Hall (2012).

Recommended Textbooks:

Jeffrey Wooldridge, *Econometric Analysis of Cross Section and Panel Data 2nd edition*, MIT Press (2010)

Colin Cameron and Pravin Trivedi, *Microeconometrics: Methods and Applications*, Cambridge University Press (2005)

Wand M.P and M.C. Jones, *Kernel Smoothing*, Chapman & Hall (1995)

Prerequisites: I strongly urge students to review the material in appendices A through D of the Greene textbook (matrix algebra, probability and distribution theory, estimation and inference, large sample distribution theory) before and throughout the term. You should acquaint yourself with SAS which we will use in the lab. SAS is available in all computers of the graduate computer lab in room 244. You are, however, free to use any software of your choice to complete homework assignments.

Evaluation: There will be a number of homework assignments and a final exam. Students will be divided into small groups for the purpose of homework assignments.

Homework Submission Policy: You are expected to submit homework assignments on time. There will be a reduction of 5% per day (baseline equals total points available for the assignment) for late submission up to 3 days except for cases of documented emergency.

Grading:

Homework Assignments	60%
Final Exam	40%

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform me as soon as possible of their needs.

Academic Misconduct: Plagiarism and other forms of cheating will not be tolerated. University rules provide severe penalties for academic misconduct, ranging from course failure to dismissal from the university. The instructor is required by the University to report all suspected cases of academic misconduct to the Committee on Academic Misconduct (University Rule 3335-5-487).

Topics to be covered (subject to change as the session progresses)

Topics	Reading Material
Introduction to OLS; Properties of OLS	Chapters 1-4
Asymptotics and Statistical Inference	Chapters 4, 5
Maximum Likelihood Estimation and Inference	Chapter 14
Multicollinearity	Chapter 4
Binary Independent Variables	Chapter 6
Specification Issues	Chapters 4-6
The Method of Instrumental Variables	Chapter 8
Generalized Least Squares: Heteroskedasticity & Autocorrelation	Chapters 9, 20
Seemingly Unrelated Regression	Chapter 10
Panel Data models	Chapter 11
Binary Dependent Variable Models	Chapter 17

Sample Selection Models	Chapter 19
Nonlinear Parametric Regression (it time allows)	Chapter 7
Nonparametric Function Estimation (it time allows) Semiparametric Single Index Models	Chapters 7, 12, and Wand and Jones