

Virginia Tech, Department of Agricultural and Applied Economics

**AAEC 4804: Introductory Econometrics**

*Smyth #232 Tuesday, Thursday 9:30-10:45*

Nick Kuminoff

Spring 2007

Office: Hutcheson #316  
Email: [kuminoff@vt.edu](mailto:kuminoff@vt.edu)  
Office Hours: Tuesday, Thursday: 10:45-12:00, or by appointment  
Web Site: <http://filebox.vt.edu/users/kuminoff/aaec4804.html>

**Text:** Wooldridge, *Introductory Econometrics*, third edition.

**Course:** Economic applications of mathematical and statistical techniques: regression, estimators, hypothesis testing, lagged variables, discrete variables, violations of assumptions, simultaneous equations.

**Prerequisites:**

- (1) One semester of Microeconomics and Macroeconomics (e.g. AAEC 1006).
- (2) One semester of Statistics (e.g. STAT 3005).

**Grading:** There will be two midterms, a cumulative final exam, problem sets, and a term paper. They will be weighted as follows:

1 <sup>st</sup> midterm:	17.5%
2 <sup>nd</sup> midterm:	17.5%
Final exam:	20%
Problem sets:	20%
Course project:	25%

**Exams:** Students who cannot be present for one of the exams must notify me in advance, if possible, and be prepared to document the reason for their absence. For those with a legitimate excuse, the final exam score will be substituted for the missed exam. Otherwise a zero will be recorded for the missed exam.

**Problem Sets:** There will be 6 or 7 problem sets. You may form study groups to work on the problem sets together. However, each student must turn in assignments in their own words. Answers that are clearly duplicates will receive a grade of zero. Violations of this rule and cheating on exams will be handled according to University policy.

**Software:** Throughout the course, we will be using the software program STATA to conduct econometric analysis. You will need to use STATA to estimate econometric models on the homework assignments and for your course project. In addition, exam problems may require you to interpret STATA output. While there are a variety of alternative econometric software packages (STATA, SAS, SPSS, SHAZAM, EVIEWS, etc...) I find that STATA is the most user-friendly. You can access STATA through the graduate computer lab in Hutcheson. Alternatively, if you would prefer to work from a personal computer, you can purchase a 1-year license from the manufacturer for \$45. Go to their website (<http://www.stata.com/order/new/edu/gradplans/gp-direct.html>) and look for the “Small Stata 9” version of the software.

## **Tentative Course Outline**

- I. INTRODUCTION
  - i. What is Econometrics? W chapter 1
  - ii. Univariate regression model W chapter 2
  
- II. MODELS USING CROSS-SECTION DATA
  - i. Multivariate regression model W chapter 3
  - ii. Inference W chapter 4
  - iii. Asymptotics W chapter 5
  - iv. Model Specification W chapter 6
  - v. Dummy Variables W chapter 7
  - vi. Heteroskedasticity W chapter 8
  - vii. Specification Problems W chapter 9
  
- III. TIME-SERIES & PANEL DATA MODELS
  - i. Properties of OLS Estimator (time-series) W chapter 10
  - ii. Selected Estimation Issues (time-series) W chapters 11-12
  - iii. Properties of OLS Estimator (panel) W chapter 13
  - iv. Selected Estimation Issues (panel) W chapter 14
  
- IV. MORE ADVANCED TOPICS (time-permitting)
  - i. Instrumental Variables W chapter 15
  - ii. Simultaneous Equation Models W chapter 16
  - ii. Limited Dependent Variable Models W chapter 17
  - iii. Introduction to Spatial Econometrics

## **Tentative Key Dates**

### EXAMS

- Midterm 1: Tuesday, February 20<sup>th</sup>
- Midterm 2: Tuesday, April 10<sup>th</sup>
- Cumulative Final Exam: Saturday, May 5th 3:25-5:25 PM

### PROJECT

- Project Proposal Due: March 1<sup>st</sup>
- Project Outline & Data Analysis Due: March 27<sup>th</sup>
- Term Paper Due: May 1<sup>st</sup>