

Introduction

AAE636 is an introductory course in graduate level econometrics. Students should have a minimum of one semester of derivative calculus, one junior-level (intermediate) undergraduate course in statistics, and one junior-level (intermediate) undergraduate course in microeconomics. This course will be fairly computer intensive using STATA software or other commonly used econometric computer program of the student's choosing. Students are assumed to be proficient in the basics of EXCEL. Advanced undergraduate students that meet the prerequisites are encouraged to take this course.

Course Objectives: This course provides an intensive introduction to methodologies for analyzing economic problems using statistical methods. There is an emphasis on linking microeconomic theory to estimation techniques, interpreting the results of various quantitative exercises and in developing initial research ideas. At the end of this course, students will be expected to have gained proficiency in developing and interpreting linear multiple regression models as applied to a variety of economic problems and data. Additional emphasis is placed on procedures for dealing with economic data, developing a research proposal, and in developing critical thinking skills useful in applied economic analysis.

Notation Econometrics textbooks use a variety of notation to define the same concepts. These notes are not designed, per se, to follow a particular text. Here, I add a table describing the notation used for this course:

$\underline{\epsilon}$ - vector of population disturbance terms (same as Greene).

ϵ_i - i^{th} population disturbance term (same as Greene).

$\underline{\beta}$ vector of fixed population regression coefficients (same as Greene).

\underline{e} - vector of sample disturbance terms or residuals (same as Greene)

$\widehat{\underline{\beta}}$ vector of sample regression coefficients (Greene uses b)

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I would like to thank Jim Schmidt, at the Economics Department, University of Nebraska-Lincoln, for assistance in preparing this course. Professor Schmidt was the first professor to encourage me to attend graduate school, which had a profound and positive impact on my life. My first graduate class was his econometrics course. Over the years, his notes proved quite helpful and I regularly referred to them for logically sound and direct approaches for dealing with many econometric issues. When pulling together the materials for this course, I used Jim's now old and tattered handwritten notes with many great comments from his class scribbled in the margins, his updated notes, which he graciously provided, and my own notes and materials from other statistics courses. Professor Schmidt's overall contributions proved to be the backbone for the first draft of sections III through VIII described in the syllabus. I am of course responsible for any errors, omissions, and really bad mistakes contained herein. It is my sincere hope that I can communicate this material to my students the way Professor Schmidt did for me. Kyle W. Stiegert