

ECON 405 — INTRODUCTION TO ECONOMETRICS

Fall, 2008

Professor P.W. Wilson

232 Surrine Hall

Class time and location: 3:30–5:00pm, 208 Surrine Hall

Office hours: Tuesday and Thursday 2:00–3:00pm, or by appointment

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Required Texts:

- D. N. Gujarati, *Basic Econometrics* (4th edition) New York: McGraw-Hill Book Company, 2003.

Recommended Text:

- D. N. Gujarati, *Student Solutions Manual to Accompany Basic Econometrics* (4th edition), New York: McGraw-Hill Book Company, 1995.

Additional course materials can be found by going to my web page (see above) and clicking on the link labelled “Course Materials for Students.”

Course Objectives: This is typically the first course in Econometrics taken by undergraduates who have had a course in basic statistics. Econometrics is an application of statistical methods to the estimation of economic relationships. As such, this is neither a statistics course nor a course in economic theory, although students are expected to have a basic understanding of both statistics and economic theory. Whereas economic theory courses discuss relationships among various economic variables, this course reveals how those relationships are discerned from data.

The primary focus of this course is on estimation methodology. Consequently, the course more closely resembles theory courses such as intermediate micro and macro where basic techniques used in economics are taught, rather than field courses such as urban or labor economics which focus on particular economic problems and issues. Since this is an introductory course, it will not cover all aspects of econometric estimation. My goal is to impart basic theory required for interpreting and understanding linear regression models used in econometrics. Although students will be given several opportunities to gain “hands-on” experience with real data through homework assignments, the focus will for the most part remain on the underlying theory.

Prerequisites: Prerequisite courses are (i) ECON 211 (Principles of Microeconomics); (ii) ECON 212 (Principles of Macroeconomics); (iii) MTHSC 108 (Calculus of One Variable); or MTHSC 207 (Multivariate Calculus); and (iv) EX ST 301 (Introductory Statistics) or MTHSC 301 (Statistical Methods I) or MTHSC 309 (Introductory Business Statistics). If you have not had these specific courses, but have had similar courses, then you may be prepared for this course. If you have not had anything resembling these courses, and are not comfortable with basic statistical and probability concepts, then you should not take this course.

Expectations Regarding Students' Abilities: Students are expected to be proficient with (i) basic statistical concepts, such as mean, variance, distribution function, etc. (these concepts will be reviewed during the first 1–2 weeks of the semester); (ii) basic calculus concepts, including differentiation, integration, and maximization of a function; and (iii) basic computer skills. In addition, students are expected to be able to read and learn concepts on their own. Classroom lectures are designed to help students with difficult concepts; as such, classroom time will not be consumed by explaining concepts that motivated students are capable of grasping on their own (help is of course available outside the classroom, during office hours).

Course Grade Determination: Students will have the following opportunities to demonstrate abilities in econometrics:

| | |
|------------------------------|-----------------|
| Homework Assignments | 5 percent |
| Three exams, during semester | 15 percent each |
| Final exam | 50 percent |

Grades for the course will be computed from a weighted average of grades on the above items, using the weights listed above. All students are expected to at least attempt the homework assignments; *i.e.*, it is better to turn in an assignment that is only partially correct rather than to not turn in the assignment at all. The homework assignments are *far more important* than their above weight would indicate. While homework problems will frequently be much more difficult than exam questions, they provide excellent opportunities to apply concepts from the lectures. As such, they are also good practice for exam questions.

Students are expected to take all exams; however, in the event of serious personal illness or other problems, a student may be excused from an exam provided written justification for doing so is presented to the instructor *before the exam*. If a student is excused from an exam, his/her course grade will be computed using relative weights identical to those above and the student will not be penalized for the missed exam. No make-up exams will be given *under any circumstances*; there will be *no exceptions*. Students are expected to attend all classes during the semester, and to arrive on time for each class.

Exams will be designed, as far as possible, to assess students' higher-order thinking, as opposed to low-level knowledge (regurgitation, description) and comprehension (rephrasing of memorized facts). Higher-order thinking in the context of this course is associated with the ability to implement and use methods for statistical estimation and inference; to synthesize concepts in order to design approaches for estimation and inference; to analyze and compare different approaches for estimation and inference; and to analyze data and draw reasonable conclusions supported by the data.

Grades on homework and exams may be challenged only if the student presents a written (*i.e.*, typed), well-reasoned argument within 24 hours after the homework or exam is returned to students in class. I am happy to discuss concepts, etc. at any time, but will consider changes to assigned grades only within the framework described here.