

ECO 706: Econometrics II
Fall 2016
TR 9:30-10:45am BE 271

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Office Hours: TR 1:00pm-2:00pm

Prerequisites: The student is assumed to have had ECO 590, ECO 603 and ECO 703. Generally, the student who has not successfully completed these courses or the equivalent is ill prepared for this course.

Course Goals: To provide students with a broad set of estimation approaches which go beyond the linear least squares regression model. To highlight the relationship between assumptions and estimation properties and approaches.

Course Objectives: Students will expand their toolbox of estimation approaches. Students will be able to explain differences in model assumptions and estimation approaches. Students will be able to interpret estimation results from a variety of models and estimators. Students will be able to discuss the pros and cons of different estimation techniques.

Textbook Resources:

Jeffrey M. Wooldridge, Econometric Analysis of Cross Section and Panel Data, Cambridge, MA: MIT Press, 2002 (first edition).

William H. Green, Econometric Analysis, Upper Saddle River, NJ: Prentice-Hall, Inc., 2003 (fifth edition).

Jeffrey M. Wooldridge, Introductory Econometrics: A Modern Approach, Mason, OH: Thompson, South-Western, 2006 (third edition).

I do not *require* any textbook. The above three resources are excellent, and I would suggest that any serious applied academic should have at least one, if not all three, of these references on their shelf.

Evaluation: I expect that 90% and above is an A, while 80% and above is a B. Grades below 50% will generally be an E. I reserve the right to apply a curve to any grades I see fit, however the curve will never "raise" the bar (e.g. I won't suddenly decide that 95% is required for an A).

Exam I	Oct 13 in Class	100
Exam II	Dec 12, 1:00PM	100
Empirical Project (Due Dec 2)		100
Total		300

Exams and Assignments: Exams must be taken at the designated time. Only official excuses (see below) are permissible for missing an exam. All exams are closed book and closed note. Students are allowed a 1 page (front and back, 8 1/2 by 11) formula sheet and a calculator.

The empirical project will be due December 2 (5PM) in order to respect "dead week." The project is designed to have you replicate work done by others in the profession using readily accessible data and to give you practice working with data and formally writing up the results.

All assignments are due by 5pm on the date specified on the assignment. I am a stickler about the 5pm deadline: assignments that are turned in after 5pm are considered late. My computer's clock is the final say for what time it is. Assignments that are less than 3 business days late will be awarded a score no higher than the lowest score received by on time students. Assignments over 3 business days late will not be accepted for credit.

Attendance Policies and Excused Absences: I don't take attendance. You are all adults who can decide whether you wish to attend class or not. However, I am also not required to repeat material from a previous lecture or give you private lectures on material you choose to miss. You are responsible for obtaining lecture notes from a classmate.

The following are acceptable reasons for excused absences from exams: 1) serious illness; 2) illness or death of family member; 3) University-related trips; 4) major religious holidays (from Faculty Senate Rules 5.2.4.2.C). It is the student's responsibility to inform me of the absence preferably in advance, or as soon as reasonably possible (Faculty Senate Rule 5.2.4.2.D). The burden of proof is on the student to provide sufficient documentation regarding the nature of the absence, and I retain the right to ask for such proof. It is your responsibility to make proof easily and completely available to me. For class assignments, you are responsible for turning them in on time, unless the illness or other excused absence prevented you from being able to attend class and work on the assignment for a majority of the duration of the assignment.

Cheating: I don't like cheating. I really abhor plagiarism. The Faculty Senate has decided that the minimum penalty for cheating is an E for the course. What constitutes cheating? Many cases are obvious: copy answers off another person's exam, for example. Let me clarify other areas of cheating for this class.

Exams: I allow one (1) page of notes. I allow calculators. Anything else is unacceptable. You must take the exam yourself, using only your talents and knowledge.

Project: The results must be written up in your own words. I will ask for your data set and code as well. This should be your work, not copied from someone else.

Appeal Procedure: If, after an exam or assignment is graded, you believe that additional credit is deserved; you may submit a written appeal for up to one week after the assignment is graded. Your appeal should be a typewritten page or less explaining specifically: which items deserve more credit and why. Please note: your argument must be based on the answer actually turned in. Please do not give a new answer and expect more credit. Also, the argument "I meant to say..." doesn't work.

Common Courtesy: Please be courteous to me and the other students in class.

Arrive before class begins, so as not to disrupt class.

Stay through the whole class.

Turn your cell phones and tablets and such to silent.

Don't text during class.

Don't talk to your neighbor when I (or other students) are talking. If you have a question, raise your hand.

If you make an appointment to see me: show up or let me know ahead of time if something important comes up.

Teaching Philosophy: Much of the above syllabus, unfortunately, constitutes rules and regulations you, as the student must follow. Rather than set an adversarial tone, these rules are meant to establish a common approach that is applied equally to all students: fair and equitable treatment is important to me. I don't want to be a policeman. Testing and grading are also viewed as adversarial. I wish it weren't so. I view teaching as joint process: All of us working together to gain an understanding of important material. I am available for help if you are struggling. I want you to ask questions in class. I want you to answer my questions in class because thinking and participating are very important to understanding this material.

Accessibility and Accommodation: In order to meet the requirements of federal legislation, the University has enacted campus policies and procedures to ensure each qualified person shall receive the reasonable accommodations needed to ensure equal access to employment, educational opportunities, programs, and activities on campus. Students with a disability requiring accommodation must contact the Disability Resource Center and obtain a Letter of Accommodation. I will be pleased to work with any student

providing this documentation to ensure that they have all the resources needed to succeed in my class

Course Outline: The following course outline should be considered a guide. I will attempt to cover all the material, but deviations from this should be expected.

- I. Measurement Error
 - A. Review of OLS
 - B. Classical Error in RHS variables
 - C. IV Solutions
 - D. Bounds
- II. Panel Data Methods
 - A. When is OLS OK?
 - B. Random Effects and GLS
 - C. Fixed Effects
 - D. Hausman Test
- III. Binary Response Models
 - A. Linear Probability Model
 - B. Threshold Crossing Model
 - C. Probit and Logit
- IV. Multinomial Models
 - A. Multinomial Logit
 - B. Nested Logit
 - C. Multinomial Probit
- V. Truncation, Censoring and Selection
 - A. Tobit Model
 - B. Heckman's Selection Model
- VI. Estimation of Treatment Effects
 - A. Simple Dummy RHS Variable
 - B. ATE Definition and Potential Failure
 - C. Estimation Approaches
- VII. Generalized Method of Moments
 - A. GMM Theory
 - B. OLS as GMM
 - C. IV as GMM