

14.32
Econometrics
Fall 2007

Class meets in 26-210
MW 10:30-noon
Recitation meets in E51-057
F 10:00-11:00

Inst.: Sara Fisher Ellison
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by appointment
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T.A.: Emre Kocatulum
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T 4:00-5:30

1. **Course Description and Prerequisites:** This course will introduce econometric analysis of linear models, both theory and application. The only formal prerequisite is 14.30 or the equivalent, but some familiarity with matrix algebra will be helpful.
2. **Texts:** The required text is *Introduction to Econometrics* by Stock and Watson. A supplementary text is *The Practice of Econometrics, Classic and Contemporary* by Ernst Berndt. It is not as nice an all-around book as Stock and Watson, and certainly not as good a reference for future use, but it is chatty and nice to read, and it has some interesting applications.
3. **Requirements:** The course grade will be based on two exams (40% each) and four problem sets (5% each). You are expected to complete the problem sets on your own and without consulting old problem set solutions---it will clearly be in your interest to understand all of the material on them. Some of the problem sets will require use of a statistical package. Stata is the one whose use we support. Regular attendance at the recitation is strongly recommended, as the T.A. will discuss problem sets, clarify lecture material, and provide other useful guidance.
4. **Schedule:** The exam schedule is as follows:

Monday, October 29	midterm exam
Exam week	final exam

notes:

Friday, Sept 7	no recitation
Monday, Sept 24	no class
Wednesday, Sept 26	PS 1 due
Monday, Oct 8	no class
Wednesday, Oct 24	PS 2 due
Monday, Nov 12	no class

Wednesday, Nov 14	PS 3 due
Wednesday, Nov 21	no class
Friday, Nov 23	no recitation
Wednesday, Dec 5	PS 4 due

5. Course Outline: Chapters in parentheses are from Stock and Watson (SW) and Berndt (B).

Review of Probability and Statistical Inference (SW: chapters 2 and 3): Random variables, expectation and variance, point and interval estimation, hypothesis testing.

Simple Linear Regression (SW: chapters 4 and 5)(B: chapter 2): Least squares estimation, statistical properties of the estimates, goodness of fit.

Multiple Regression (SW: chapters 6 and 7)(B: chapters 3-5): Elements of matrix algebra, estimation of regression coefficients, tests of linear restrictions, dummy variables.

Heteroskedasticity and Autocorrelation (SW: sections 5.4 and 14.2)(B: chapter 6): Generalized least squares estimation.

Specification Error (SW: chapters 8 and 12): Omitted variables, nonlinearities, measurement error, simultaneous equations.

Advanced Topics (SW: chapters 10, 11, and 14)(B: chapter 11): Panel data, discrete choice models, sample selection, time series.

14.32 Policies

1. Problem sets are designed to help you learn how to apply the material presented in lectures and recitations. You are permitted to discuss course material, including homework, with other students in the class. However, you must turn in your own individual solutions to each homework set. Discussion with others is intended to clarify ideas, concepts, and technical questions, not to derive group homework set solutions. Identical homework set answers (especially when the steps used to derive answers are not shown or when questions of interpretation are involved) violate this policy and may receive no credit. Also, you are expected to complete the problem sets without consulting old problem set solutions.
2. Handwritten solutions are fine, as long as they are legible and neat. Please remember: if we can't read it, we can't grade it.
3. In fairness to students who complete assignments on time, late homework sets will not be accepted. You may turn in assignments during the lecture on the day they are due. After the lecture, assignments may be placed in a designated box that will be set out outside E52-274b until 4:30 pm. Do not leave assignments in the professor or T.A.'s office or mailbox.
4. Taking both exams is a requirement of the course. Missing an exam without a valid excuse will result in a failing grade for the entire course.
5. To be considered valid, an excuse must be proffered prior to the exam that is to be missed, if at all possible, the excuse must be in writing, and it must be verifiable. These criteria are necessary, not sufficient, however. We reserve the right to deem an excuse meeting the above criteria invalid.
6. An **oral** make-up exam will be given in the event of a valid excuse.
7. All requests for regrades must be submitted in writing within one week of the exam being handed back.
8. Cheating or academic dishonesty in any form will not be tolerated and will result in swift punitive action. This includes but is not restricted to copying information from other students' exams, communicating with other students during exams, failing to follow the rules of the exams regarding notes, calculators, etc., altering an exam for the purpose of a regrade, and producing fraudulent written excuses. Any student found to have cheated or behaved unethically or dishonestly will be given a grade of F on the exam involved and referred to the appropriate disciplinary committees within MIT for further action.