Econ 228 Econometrics   Donald Cox
Syllabus   Spring 2000

Office: Carney 128
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Office Hours: Tuesday and Thursday, 4:30 -- 5:30 p.m.

       This course is designed to provide students with a thorough grounding in the theory and applications of regression analysis. This course builds on your knowledge of statistics, but unlike statistics, econometrics is concerned with relationships between variables rather than analysis of just one variable. The goal of the course is to develop expertise in both evaluating the work of others and performing analysis of your own. We will first develop estimators under ideal conditions. Then we will investigate the properties of these estimators when ideal conditions do not hold, and see whether the desirable properties of these estimators can be restored by modifying the estimation technique.

Text: The required text is <u>Econometric Models and Economic Forecasts</u>, 4th Edition, by Robert Pindyck and Daniel Rubinfeld (McGraw Hill, 1998).

Software: Computer software will be needed for some of the problem sets and for the project. We will be using *STATA,* a statistical package that is versatile, powerful and very popular. *STATA* is available for both Windows and the Mac. More information about *STATA* and software options will be made available in a separate handout.

Prerequisites: Calculus and statistics (Econ 151, Econ 157 or equivalent).

Grading: The course grade is based on the following:

Midterm (in class, Thursday, March 16)	25 percent
Final Exam (Monday, May 8, 9:00 - 11:00 a.m.)	40 percent
Research Paper (due May 2, 12 noon)	25 percent
Problem Sets (four in all, due at 12 noon in class)	10 percent

       <u>No make-up or early exams will be given</u>. Students should check their schedules to make sure that no conflicts occur on these exam dates.

Reading: A tentative reading schedule is outlined on pages 2 and 3. Required reading averages fewer than 10 pages per class, but most often you will have to work through the material slowly and repeatedly. Sticking to the reading schedule keeps you concurrent or ahead of the pace of the lectures.

Date		Reading	Main Topic	Things Due
January	18	---	Introduction	---
	20	Ch. 1	Least Squares Regression	---
	25	Ch. 2, pp. 19-32	Basic Statistics	Paper--submit names for group
	27	Ch. 2, pp. 33-53	Basic Statistics	---
February	1	Ch. 3, sections 3.1, 3.2	Simple Model, Gauss-Markov Thm.	---
	3	Ch. 3, section 3.3	Hypothesis Testing	Problem Set #1
	8	Ch. 3, section 3.4	R-Squared	Paper--submit topic (one page)
	10	Ch. 3, Appendix	Properties of the Simple Model	---
	15	Ch. 4, section 4.1	Multiple Regression	---
	17	Ch. 4, sections 4.2, 4.3	Hypothesis Testing, Corrected R-Squared	Problem Set #2
	22	Ch. 4, sections 4.4, 4.5, 4.6, Appendix 4.1, 4.2	Multicollinearity Partial Correlation	Paper--submit 1st progress report (2-3 pages)
	24	Ch. 5, sections 5.1, 5.2	Non-Linear Functional Forms Dummy Variables	---
	29	Ch. 7, section 7.3	Omitted Variable Bias	Problem Set #3
March	2	Ch. 5, section 5.3.1	Joint Hypothesis Tests	---
	14	---	Review	---
	16*	---	MIDTERM EXAM	---
	21	---	Go Over Exam	---

<u>Date</u>		<u>Reading</u>	<u>Main Topic</u>	<u>Things Due</u>
March	23	Ch. 5, sections 5.3.2, 5.3.3	Tests of Linear Restrictions, Chow Test	Paper--submit 2nd progress report (4-5 pages)
	28	Ch. 5, sections 5.4, 5.5, Appendix 5.1	Splines, Structural Breaks, Hypothesis Tests with Dummy Variables	---
	30	Ch. 6, section 6.1	Heteroskedasticity	---
April	4	Ch 6, section 6.2	Serial Correlation	---
	6	Ch. 7, sections 7.1, 7.2	Correlation Between X_i and ε_i, Errors in Variables	---
	11	Ch. 12, sections 12.1, 12.2	Simultaneous Eqn. Models, Identification	Problem Set #4
	13	Ch. 12, sections 12.3, 12.4	Two-Stage Least Squares	---
	18	---	Two-Stage Least Squares, cont.	---
	25	Ch. 11, section 11.1	Binary-Choice Models	---
	27	---	Binary-Choice Models, cont.	---
May	2*	---	Review	PAPER DUE, 12 NOON
	8*	---	FINAL EXAM, 9:00--11:00 a.m.	---