

Economics 7828  
Dr. Waldman

January 13, 2009  
Tentative office hours: Wed, Thurs: 8:15 - 9:45

### Course Information

Economics 7828 is a one-semester course in the fundamentals of econometrics. We will study the classical, normal, linear regression model, and some topics. This course is required of all Ph.D students in economics, and is the prerequisite for Econ 8828 and Econ 8838, the seminar courses for those students wishing to take econometrics as a field.

Time and place: Tues/Thurs 12:30 - 1:45, room 13, Economics Building.

Prerequisites: Econ 7818, and knowledge of basic linear algebra. A good review of the prerequisites is contained in Greene, Econometric Analysis (any edition), Appendices A - D (Matrix Algebra, Probability and Distribution Theory, Estimation and Inference, and Large Sample Distribution Theory).

Requirements: There will be a midterm exam, Tuesday, February 24, a final exam, May 5, Tuesday, 4:30 pm - 7 pm, and periodic problem sets, each contributing approximately 1/3 to the course grade.

Text: I take material for lectures from two books. The first is Econometric Analysis, by William H. Greene, Prentice Hall, various years. This widely used text is a good reference for the practicing econometrician. The second is A Course in Econometrics, by Arthur S. Goldberger, Harvard University Press, 1991. Neither is required.

Problem sets. The problem sets are generally not empirically oriented, that is, no computer is required. However, I will make use of the Gauss programming language from time to time in lecture, and may include a few problems using Gauss. Gauss is available on the computers in the grad lab, and I will give a brief tutorial in class.

The course web site is through the CU Learn program.

Topics and relevant sections in Greene and Goldberger:

(over)

Topic	Greene			Goldberger
	5 <sup>th</sup> ed.	Sections	6 <sup>th</sup> ed.	
Prerequisites	Appendix	A - D	App. A-D	2 - 13
Introduction	1	all	1	1
Classical Multiple Linear Regression Model	2	all	2	14 - 17
Least Squares	3	1-3, 5, 6	3	
Finite Sample Properties of LS Estimators	4	1-9, 10	4	
Large Sample Properties of LS Estimators	5	1-3, 7	4	
Inference and Prediction	6	1-3,6,7	5	20 - 22
Specification Analysis and Model Selection	8	1, 2, 5	7	
The Generalized Regression Model	10	1-3, 5, 7	8	27
Heteroskedasticity	11	1, 2, 4-6, 9	8	28
Serial Correlation	12, 20	1,2,5,7,9,12	19	28
Systems of Equations	14	1, 2, 5	10	30 - 31
Simultaneous Equation Model	15	1-5	13	32 - 34