Economics 4818 -- Introduction to Econometrics  
Fall 1995

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Economics Bldg. 115  
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Office Hours: M 3:00 -- 5:00 or by appointment.

Textbook: Basic Econometrics, D.N. Gujarati, 3rd Edition

Course Requirements: Two fifty-minute exams (midterm and final, worth each one-third of the final grade) and a short paper reporting on an applied project, also worth one-third of the final grade. Depending on your interests, I will supply the data to be used for the applied project or help you research other sources of data and databases. You are also encouraged to do the problems in the textbook on your own and to compare your solutions to those that I will hand out or illustrate in class. Your questions on the material covered in class or the problems in the textbook are welcome and highly encouraged.

Course Outline: We will start with the standard linear regression model, discuss its meaning, spell out the underlying assumptions and apply the most commonly used estimation technique(s). We will then learn what the estimates can and cannot do for us when we want to find (or refute) economic relationships in our data.

Initially, we will use very simple models (models with one dependent variable and one independent variable). Once we have mastered the simple models, we will build on our results to accommodate more complex models (e.g., several independent variables) and will learn what to do if we suspect that the standard assumptions do not hold true.

Because this course emphasizes applied work and interpretation of results, the lectures will provide lots of examples based on real data. I will also teach you how to use XXX, a statistical package made available to you in the Economics Computer Lab, for your applied project.

(over)
The standard linear regression model (one independent variable) [Chapters 1 to 3]
-- what it means
-- assumptions
-- estimation by the method of least squares
-- the properties of the estimates

Building on the model: normal errors [Chapters 4 and 5]
-- estimation by least squares or maximum likelihood
-- the properties of the estimates
-- hypothesis testing

Building on the model: multiple regression [Chapters 5, 6, 7 and 8]
-- estimation by least squares
-- hypothesis testing
-- deciding on the goodness of the model

Building on the model: dummy independent variables [Chapter 15]

Building on the model: coping with violations of the assumptions [Chapters 10, 11, 12, and 13]
-- non-normal errors
-- correlated errors
-- heteroskedastic errors
-- collinearity of the independent variables
-- omitted independent variables, redundant independent variables