

Department of Economics
University of California at San Diego

Kevin Sheppard
kksheppard@ucsd.edu

Economic 120B: Econometrics
<http://weber.ucsd.edu/~ksheppar/econ120b>

Overview

This course is an introduction to regression analysis. Using a variety of economic examples, we will discuss how to specify, estimate, test, and interpret linear regression models. This is the second course in the three-course econometrics sequence; Economics 120-A is a prerequisite.

The textbook for the course is Stock and Watson *Introduction to Econometrics*. It is available for purchase at the UCSD bookstore, and at least one copy will be on reserve at the library. Some of the assignments will involve estimating regression models using real data; you will be taught how to do this using the regression package in Excel. Excel is available in the Economics 100 computer lab. You will need an account from ACS to use this lab. If you do not have one, you can sign up in APM 2113.

Course Information

Instructor:	Kevin Sheppard	Econ 108	M 4-5:30
Teaching Assistants:	Jocelyne Arnott	Econ 120	M 1-2, W 1:30-2:30
	Raffaella Giacomini	Seq 241	F 1-3
	Munir Jalil	Econ 114	Th 10-12
	Elliot Williams	Econ 125	Tu 2-4

Grading

Your grade in this course will be composed of 4 parts, 2 midterms, homework, and the final. The homework will consist of data analysis and regression. In addition to the assigned homework, problem sets will be provided weekly (on Wednesday). The problem sets are not turned in. The midterms will be given in class on Wednesday January 29, 2003 and Wednesday February 26, 2003. 33% of the midterms will consist of problems verbatim from the problem sets, and another 33% will be similar. Thus, while problem sets are not turned in or graded, it is clearly in your best interest to do them and learn the material.

10%	Homework	T.B.D.
25%	Midterm 1	Wednesday January 29, 2003
25%	Midterm 2	Wednesday February 26, 2003
40%	Final	Friday March 21 3:00 - 6:00 p.m.

Tentative Course Outline

We will cover chapters 1-6 (and possibly portions of 7) of the textbook. See the course web page for a more detailed schedule of reading assignments.

Introduction & Review

- A What is econometrics? (Ch. 1)
- B Review of important probability properties (Ch. 2)
- C Estimators and desirable properties of estimators (Ch. 3.1)
- D Confidence intervals and hypothesis testing (Ch 3.2-4)
- E Correlation and Covariance (Ch 3.6)
- F Review of important statistical distributions (Handout)

Simple Linear Regression

- A The basic model: explanation and underlying assumptions (Ch. 4.1, 4.3)
- B Estimation by Ordinary Least Squares (OLS) (Ch. 4.2)
- C Properties of OLS estimators (Ch. 15)
- D Goodness of fit (Ch. 4.8)
- E Hypothesis testing and confidence intervals (Ch 4.5)
- F Questions of causality (Ch. 1.2)

Multiple Linear Regression

- A The model: explanation and interpretation (Ch 5.2-3)
- B OLS estimation (Ch. 5.3)
- C Assumptions for multiple regression (Ch. 5.4)
- D Goodness of fit (Ch. 5.10)
- E Hypothesis testing (Ch 5.5-9)
- F Specification errors and their consequences (Ch. 5.1, Ch. 5.11)
- G Multicollinearity (Ch 5.4)
- H Double-log and semi-log specifications (Ch. 6.2)

Further Topics (As Time Permits)

- A Review of Linear Algebra (Appendix 16.1)
- B Heteroskedasticity and testing (Ch. 4.9)
- C Generalized Least Squares (Ch. 16.6)