Econ 120B: Econometrics B
Department of Economics
University of California San Diego

Spring Quarter 2007
Classes: Tu., Th. 5.00 – 6.20 pm (Centre Hall 105)
Office Hours: Tu. 1.30 – 3.30 pm

Prof. Sunil Kanwar
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TAs:
Karim Chalak – EC 122; kchalak@ucsd.edu, Wed, 10.30 am – 12.30 pm
Michael Futch – SH 228, mfutch@ucsd.edu, Mon, 10 am – 12 noon

Text: The recommended text for this course is:
J.H. Stock and M.W. Watson, *Introduction to Econometrics*, Addison Wesley, 2007 (second edition)

Grading and Exams: The grades will be determined on the basis of three homework assignments (5% each), a mid-term exam (35%), and a final exam (50%). The mid-term will cover the course material taught up till then, and the final will stress the subsequent course material. The mid-term will be held on May 10, 2007 (Thursday), in class during lecture hours. The final will be held on June 11, 2007 (Monday), 7-10 pm (venue tba). The final grade out of 100 will be curved, *not* the individual grades. There will be no make-up exams.

Release of Student Information: To facilitate the return of written assignments by placing them in public locations, students may sign and submit the 'Buckley Waiver' form provided at the end. Note that this is purely discretionary.

Course Outline

This course introduces students to the basic techniques required for empirical research in academics and/or business. It prepares them in the estimation of economic relationships, using regressions to address issues of causality, and using regressions for forecasting. In addition to theory and empirical examples, this training is enhanced by the use of statistical software programmes, particularly STATA, to which students have access in the computer labs (Econ 100; ERC 116, ERC 117). Alternatively, students may purchase 'Small Stata 9' online, at the website 'stata.com/order/schoollist.html', for $45.

1. Introduction and Review of Statistics (Ch. 1, 2, 3)

Motivation, Types of Data, Random Variables, Probability distribution; Moments; Some important probability distributions; Sampling; Sampling estimators and their properties, Large sample approximation; Hypothesis testing and Confidence Intervals – basics

2. Simple Linear Model: Estimation (Ch. 4)

The linear regression model; Ordinary Least Squares (OLS) estimation; Measures of fit; Underlying assumptions; Desirable properties of least squares estimators.

3. Simple Linear Model: Statistical Inference (Ch. 5)

Sampling distribution of least squares estimators; Hypothesis Testing – the test of significance approach, p-value approach, the confidence interval approach; Regression with a binary regressor; Heteroscedasticity and homoscedasticity.

4. Multiple Regression Model: Estimation (Ch. 6)

Estimation issues re-visited – omitted variable bias; OLS estimators; Measures of fit; Underlying assumptions; Multicollinearity

5. Multiple Regression Model: Statistical Inference (Ch. 7)

Testing individual regression coefficients; Testing overall significance of the regression; Testing the equality of coefficients; Testing linear restrictions

6. Assessing Multiple Regression studies (Ch. 9)

Internal and External Validity; Threats to external validity; Threats to internal validity – Omitted variable bias, Misspecification bias, Errors-in-Variables, Sample selection bias, Simultaneous causality bias; Internal and external validity in the context of forecasting.

7. Randomised Controlled Experiments (Ch. 13, except 13.5 onwards)

Ideal experiments and causality; potential problems with actual experiments; differences estimator.

STUDENT CONSENT FOR RELEASE OF STUDENT INFORMATION
(Buckley Waiver)

I hereby authorize the UCSD Economics Department to return my graded final examination / research paper by placing it in an location accessible to all students in the course. I understand that the return of my examination / research paper as described above may result in the disclosure of personally identifiable information, that is not public information as defined in UCSD PPM 160-2, and I hereby consent to the disclosure of such information.

Quarter ---------- Course ---------- Date ----------

Instructor ----------

Student ID # ----------

Student Name ----------

Student Signature ----------