

Business School, Brunel University

**MSc., EC5501-EC5515, Modelling Financial Decisions and Markets-
Introduction to Quantitative Methods**

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READING LIST & LECTURE SCHEDULE

Aim (Broad Educational Purpose)

This course provides a broad introduction to the theory and practice of econometrics. Econometrics is concerned with the systematic study of economic phenomena using observed data. The aim is to help students use statistical methods to estimate the parameters of economic models, and test economic hypotheses.

Objectives (Specific Learning Outcomes)

On successful completion, students should

- be familiar with random vectors and probability distributions
- thoroughly understand the classical linear regression model
- be familiar with the least squares and maximum likelihood estimation techniques
- be able to estimate linear regression models
- be able to test statistical assumptions and economic hypotheses
- be familiar with simple time series models

Teaching Arrangements

Throughout the semester 1, there will be a weekly lecture (Friday: 9-11 a.m) combined with a one hour class which is compulsory and starts the 2nd week of the semester. During each lecture students will be given a set of lecture notes and a problem set. It is essential that students work on each problem set at home before it is solved in the class. In addition, there will be a weekly one hour class where students will be given an applied econometrics exercise and will learn how to use EVIEWS, a well known econometrics software package.

Course Assessment

There will be a compulsory test (during the last week (week 6: 07/11) of semester 1) which will count 15% towards the course unit mark. In June, students will sit a three(two) hour formal examination which will count for 70% of the course unit mark.

Required Reading

JD: Jack Johnston & John Dinardo (1997; 4th Ed.), *Econometric Methods*, McGraw-Hill.

Essential Reading

K: Peter Kennedy (1992), *A Guide to Econometrics*, Blackwell. (Not a text book, but an excellent explanation.)

PR: Robert S. Pindyck & Daniel L. Rubinfeld (1997; 4th Edition), *Econometric Models & Economic Forecasts*, McGraw-Hill.

G: Damodar Gujarati (2008; 5th Ed.), *Basic Econometrics*, McGraw-Hill.

Course Outline

1. Introduction to Econometrics.

[JD ch. 1; PR ch. 2; G: ch 1-3; Lecture Notes 1,2]

2. Further aspects of Two variable Relationships.

[JD ch 1-2; PR ch. 3; G: ch 4-6; Lecture Notes 3]

3. The Classical Regression Model, Specification, Heteroscedasticity.

[JD ch 3-6; PR ch 3, 4 and 6; G: ch 7-13; Lecture Notes 4-6]

4. Inflation-Growth.

[Notes; Research Papers]

5. GARCH Volatility; Stock Volume and volatility.

[Notes; Research Papers]

6. Output growth, financial development and political instability

[Research papers]