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# EC220
# Introduction to Econometrics

**This information is for the 2010/11 session.**

### Teacher responsible

Dr C Dougherty, STC. S376

### Availability

Optional for BSc Accounting and Finance, BSc Economics, BSc Economics and Economic History, BSc Economics with Economic History, BSc Government and Economics, BSc Management Sciences, BSc Philosophy and Economics, BSc Social Policy and Economics, the Diploma in Accounting and Finance and MSc Economics (Two Year Programme).

### Pre-requisites

Students are expected to have completed ST102 Elementary Statistical Theory or an equivalent full-year course. Those who have taken MA107/ST107 should consider taking EC220 only if they have obtained marks of 65 or better on both courses.

### Course content

The course begins with four optional review lectures on random variables, expectations, unbiasedness, efficiency, consistency. The main lectures cover covariance, variance and correlation; simple and multiple regression analysis; test statistics; problems of multicollinearity and misspecification; transformation of variables; dummy variables and binary response models; proxy variables; autocorrelation; heteroscedasticity; measurement errors and Friedman's Permanent Income Hypothesis; simultaneous equations bias; instrumental variables; two-stage least squares; binary choice (linear probability model, logit analysis, probit analysis); censored regression model (Tobit analysis); sample selection bias (heckman two-step method); an introduction to maximum-likelihood estimation; an introduction to non stationary time series, unit root tests, cointegration, and error-correction models.

### Teaching

Lectures EC220: 43 (three optional) Sessional.

Dr Dougherty gives the three preliminary review lectures in the first two weeks of the MT and the main lectures from the third week of the MT. The theory lectures continue in the LT and ST.

Classes EC220.A: 20 Sessional. EC220.B for graduate students.

### Formative coursework

Exercises are provided each week and are discussed in the classes. Students are required to hand in written answers to the exercises for correction.

### Indicative reading

C R S Dougherty, *Introduction to Econometrics* (3rd edn), Oxford University Press, 2006. Further materials will be available on the EC220 website (http://econ.lse.ac.uk/courses/ec220/)

### Assessment

A three-hour written examination in the ST.

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