**R301 Econometrics II**

**Aims and Objectives**

This course consists of 27 hours of lectures dealing with two topics:

I.  Modelling and Analysis of Economic and Financial Time Series
II. Modelling and Analysis of Cross-section and Panel Data

**Modelling and Analysis of Economic and Financial Time Series**

Time series models, including arima model, long memory, and structural (unobserved component) time series models. State space models and the Kalman filter; trends and cycles in macroeconomic time series; multivariate models and co-integration; nonlinear models and changing volatility; dynamic conditional score models; dependence, measures of association, and the estimation of dynamic models

**Modelling and Analysis of Cross-section and Panel Data**

Topics covered will be taken from: Generalised Method of Moments, random utility models in discrete choice, heterogeneity and endogeneity in binary choice models, program evaluation and treatment effects, fixed and random effects estimators for panel data, nonlinear and dynamic panel data models, count data models, an introduction to simulation methods (classical and Bayesian), and techniques to facilitate inter-individual comparability using survey data.

**Readings**

Cross-section and Panel Data

Time Series

2) Harvey, A. C. Dynamic Models for Volatility and Heavy Tails. Cambridge University Press, 2013. See also econ.cam.ac.uk/DCS; gas-model.com

Assessment

The examination for this module will be by a 3-hour written exam.