Econometrics 1 & 2 (Two Term module)

Module Code: ECO00047M   Credits: 20   Term: 1 - 2
Contact Hours: 32 x 1 hour Lectures, 8 x 1 hour Problem Classes and 16 Computer Practicals (56 contact hours)

Module Organisers: Dr Vanessa Smith (Term 1) & Dr Michael Thornton (Term 2)
Module Lecturers: Dr Vanessa Smith & Dr Jia Chen (Term 1)
Dr Michael Thornton (Term 2)

Overview:

This module is designed to provide intermediate level knowledge of the core techniques employed in modern econometric analysis to those with some experience in Statistics and/or Econometrics during their undergraduate degree. Techniques are taught through a mixture of mathematical rigour and real world practical examples, with a view to enhancing problem solving skills and to developing students’ confidence in using the main empirical methods popular in Economics and Finance.

Aims:

- To equip students with intermediate level knowledge of the core techniques employed in modern econometric analysis so that they are able:
  - to follow the techniques and arguments used in a range of empirical papers in Economics and Finance; and,
  - to undertake a successful empirical dissertation.
- See also description of Econometrics 1

Objectives:

On completing the module a student should be able:

- to recognise and interpret various mathematical objects that arise in the theory of least squares estimation and testing;
- to extend these skills to the estimation and testing of models under conditions that commonly arise in economic and financial data, including:
  - non-linear models;
  - disturbances that are heteroskedastic and/or serially correlated;
  - dependent variables that are qualitative (can only take one of a finite number of values) or limited to the range of values they can take;
  - regressors that are endogenous, through instrumental variable estimation and the generalised method of moments; and,
  - variables that are driven by long-run trends.
- to present and derive key statistical results discussed during the module at an appropriate mathematical level; and,
- to interpret correctly the results of empirical statistical analysis as performed using contemporary econometric software.
Assessment:

There will be a two-hour unseen examination at the start of the Spring Term for Econometrics 1 (term 1) and a further two-hour unseen examination in the Summer Term for Econometrics 2 (term 2). The grade for the whole combined module will be an average of marks in these two examinations. Guidance will be available on the module VLE pages.

Pre-requisites:

An understanding of topics in basic statistics, at the level of the Statistics Review course, is assumed. Some familiarity with elementary matrix algebra is highly desirable.
