**Course module – Econometrics - Example**

**Code :** ECON20110
**Credit rating:** 20
**Semester :** both

**Aims**

1st Semester Aims:

The aim of this semester is (i) to revise and strengthen students' knowledge of univariate and multivariate statistics, (ii) to provide students with a working knowledge of introductory matrix algebra and (iii) to obtain a full understanding of the classical linear regression model.

2nd Semester Aims:

The aim of this semester is to provide students with (i) a working knowledge of regression analysis under non-classical assumptions on the disturbance; (ii) a basic understanding of issues arising from model misspecification (iii) an introduction to time series analysis

**Objectives (Learning Outcomes)**

1st semester objectives:

At the end of this course students should be able to
(1) Achieve full understanding of univariate and multivariate statistics
(2) Achieve full understanding of basic ideas of linear algebra, to perform basic matrix calculations such as sums, products, inverses etc as well as achieve full understanding of why matrix algebra is useful in econometrics
(3) Estimate the parameters of the regression model; to understand the basic properties of the estimators; to produce and read regression output from an econometrics software package.
(4) Construct general specification tests.
(5) Explain and prove the properties of the OLS estimator under spherical disturbances.

2nd semester objectives:

At the end of this course students should be able to:

(1) use an econometric software EViews;
(2) understand the consequences of model misspecification;
(3) understand the consequences of autocorrelation and heteroskedasticity, estimate the regression model under such circumstances, and test them;
(4) appreciate the difference between cross section and time series analysis;
(5) understand basic issues arising from time-series data;
(6) Use dummy variables where appropriate.
(7) Understand the consequences of model misspecification

**Course Content**

Econometrics is concerned with the estimation of relationships between economic variables, the testing of economic models and the forecasting of economic time-series, using real-life data. The first semester of this module introduces you to the technique of multiple regression modelling. You will make use of and develop your skills in economics, mathematics,

statistics and computing during the module, a key feature of which is hands-on experience of multiple regression modelling using economic data. The second semester furthers your appreciation and working knowledge of techniques used in contemporary econometric modelling.

**Preliminary reading**

Wooldridge J. (2009) Introductory Econometrics (4th edition) Thomson Learning

Maddala G.S (2001) Introduction to Econometrics (3rd edition) Wiley

Gujarati R.N and Porter D.C. (2009) Basic Econometrics (4th edition) McGraw Hill