COURSE SPECIFICATION DOCUMENT

Academic School / Department: Richmond Business School

Programme: BA (Hons) Economics with Combined Studies

FHEQ Level: 6

Course Title: Econometrics II – Applied Economcetrics

Course Code: ECN 6215

Course Leader: Nick Wilkinson

Student Engagement Hours: 120 (standard 3- credit BA course)
Lectures: 30
Seminar / Tutorials: 15
Independent / Guided Learning: 75

Semester: Fall

Credits: 12 UK CATS credits
6 ECTS credits
3 US credits

Course Description:
This course is an applied course in modelling data particularly time series data as a practical guide to quantitative research in Economics, Finance, Development Studies, and areas of business such as Marketing. The focus of the course is to build on principal econometric techniques learnt and to extend them by dealing with real- world issues without adopting an excessively esoteric and/or mathematical approach.

Prerequisites:
ECN 5215

Aims and Objectives:
- Extend the students' knowledge and understanding of running regression for empirical research.
- Modelling time series data by connecting the phenomenon observed, the underlying theory, the raw data and correctly applied statistical techniques.
- Providing empirical evidence that support (or refute) hypotheses, illustrate trends or structural breaks and allow inferences about relationships between phenomena by constructing models for data that follow a natural ordering over time so that successive observations exhibit intercorrelation.
- Capturing important dynamic structures in economics, finance and development studies by examining lagged values of the explanatory or dependent variables.

Programme Outcomes:
A2, A3, A4
B2, B3

D

A detailed list of the programme outcomes are found in the Programme Specification.

This is located at the archive maintained by the Registry and found at:
https://www.richmond.ac.uk/programme-and-course-specifications/

Learning Outcomes:
By the end of this course, successful students should be able to:

Knowledge and Understanding
- Demonstrate an understanding of the steps involved in testing regression residuals to find out if they are of the same equal error variance and unequal spread and if the error terms are correlated in successive observations of the data that follow a natural ordering over time.

- Demonstrate an understanding of time lags, structural breaks and different related models.
- Explain the defining characteristics of various types of stochastic processes and identify the appropriate time series model for a given data set.
- Highlight the problems that may occur if non-stationary data are used in their level form and test for unit root and examine whether systems of variables are co-integrated.

- Construct multivariate conditional volatility models and compare between alternative specifications.

Subject-Specific Skills

- Focusing on parsimony: attempting to abstract from the complexity to strip theoretical models to their bare essentials.

Numeracy
- Procession of data
- Numerical skills are necessary for the handling of information
- Interpretation of data and understanding of statistical significance
- Recognition that conclusions drawn from data might be ambiguous.

Indicative Content:
1. Review of the linear regression model and functional form
2. Regression diagnostic: autocorrelation
3. Regression with time series data: stationary variables
4. Regression with time series data: non stationary variables
5. Co-integration and error correction models

6. Forecasting : estimating a Vector Error Correction(VEC) and Vector Autoregression(VAR)models
7. Asset Price volatility : testing for Autoregressive Conditional Heteroskedasticity (ARCH) effects
8. Generalized ARCH and GARCH- in- Mean Models
9. Panel data regression models
10. How to prepare an empirical dissertation or a senior project in Economic, finance or marketing

Assessment:
This course conforms to the University Assessment Norms approved at Academic Board.

Teaching Methodology:
The course will be taught using a variety of methods including lectures, directed and undirected reading, case studies, project work, and discussions.

Indicative Text(s):
Textbooks:

Wooldridge, J. (2019). Introductory Econometrics: A Modern Approach, 7th edition, Cincinatti: South-Western.

Heiss, F. (2016). Using R for Introductory Econometrics, Scotts Valley, CA: CreateSpace Independent Publishing

Further reading:

Asteriou, D. and Hall, S. (2015). *Applied Econometrics*. London: Palgrave Macmillan. (eViews)

Baddeley, M., Barrowclough, D. (2009) Running Regression, Cambridge: CUP

Brooks, C. (2014) Introductory Econometrics for Finance, 3rd edition, Cambridge: CUP

Enders, W. (2009) Applied Econometric Time Series, 3rd edition, London: Wiley

Gujarati, D.N., Porter, D.D. (2009) Basic Econometrics, 5th edition, London: McGraw Hill

Gujarati, D., (2011) Econometrics by Example, Basingstoke: Palgrave - Macmillan

Journals
Click here to enter text.

Web Sites
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See syllabus for complete reading list

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
Minor: Updated Reading List	Feb 21	