

COURSE SPECIFICATION DOCUMENT

Academic School / Department:	Richmond Business School
Programme:	BSc Economics and Finance with Combined Studies
FHEQ Level:	6
Course Title:	Econometrics
Course Code:	ECON 6101
Total Hours:	160 (Lev 3-5) (4 US Credit)
Timetabled Hours:	45
Guided Learning Hours:	15
Independent Learning Hours:	100
Credit	16 UK CATS credits 8 ECTS credits 4 US credits

Course Description:

This course bridges the gap between econometric theory and statistics and applied software techniques. Provides the necessary background to assess economic decisions and run linear regression, understanding the origins of the technique. Moreover, this course has an applied course dimension in modelling data via software applications, particularly time series data, as a practical guide to quantitative research in Economics and Finance.

Prerequisites:

MATH 4103 Calculus with Applications AND
ECON 5102 Macro View of the Economy AND
ECON 5101 Managerial Economics AND
70 Credits

Aims and Objectives:

This course aims to provide a solid understanding to econometric theory, but also to expand on applied econometric analysis. The students will learn how to conduct empirical research by Modelling time series data. Expanding the critical ability to connect the phenomenon observed in real life and the underlying theory with the correct applied statistical techniques will be of high importance. Students will gain the necessary tools to tackle industry-related decision-making problems.

Programme Outcomes:

A6(ii), A6(iii), B6(ii), B6(iii), C6(i), D6(i)

A detailed list of the programme outcomes are found in the Programme Specification. This is located at the archive maintained by 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:

Course Learning Outcomes	Programme Outcomes
1. Demonstrate an understanding of the theory underlying inferential statistics, and its application to single-variable situations	A6 (ii)
2. Demonstrate the ability to perform multivariate regression analysis and understand statistical significance	A6 (ii)
3. A systematic understanding of Hypothesis Testing and the potential problems that we encounter	A6 (iii)
4. Understand deeper problems related to time-series analysis	B6 (iii)
6.. Demonstrate critical thinking in specifying the model and the technique used for the analysis	B6 (ii)
7. Perform practical research involving collecting data and conduct econometric analysis using computer software	B6 (ii), C6 (i) and D6 (i)

Indicative Content:

- Review of statistical inference
- Simple linear regression model
- Multiple regression
- Different mathematical forms of regression model
- Dummy variables
- Selecting appropriate models
- Regression with time series data: stationary variables
- Regression with time series data: nonstationary variables
- Co-integration and error correction models
- Forecasting: estimating a Vector Error Correction (VEC) and Vector Autoregression (VAR) models
- Asset Price volatility: testing for Autoregressive Conditional Heteroskedasticity (ARCH) effects
- Panel Data regression Models

Assessment:

This course conforms to the University Assessment Norms approved at Academic Board and located at: <https://www.richmond.ac.uk/university-policies/>

Teaching Methodology:

This course will be delivered face to face through a combination of lectures and interactive sessions. In addition to classroom activities, there are guided learning elements that are tutor led and arranged through Blackboard. These activities can be asynchronous online sessions, flipped classrooms, set readings with discussion boards or set guest lectures for example. Set activities are monitored by the instructor to ascertain student engagement. Students are encouraged to prepare for class and to play an active part, to raise questions, following-up ideas and interact with a wide range of provided material.

Indicative Text(s):

Asteriou, D. and Hall, S.G. (2021) *Applied econometrics*. 4th edn. London: Macmillan international Higher Education.

Gujarati, D.N. (2022) *Essentials of econometrics*. 5th edn. Los Angeles: SAGE.

Studenmund, A.H. and Johnson, B.K. (2017) *A practical guide to using econometrics*. 7th edn. Global edn. Harlow, England; Munich: Pearson.

Wooldridge, J.M. (2020) *Introductory econometrics: a modern approach*. 7th edn. Boston, MA: Cengage.

Journals

American Economic Review.

Econometrica.

Websites

Kaggle. Available at: <https://www.kaggle.com/datasets> (Accessed: November 2024).

Gov.uk Statistical data sets. Available at: <https://www.gov.uk/government/statistical-data-sets> (Accessed: November 2024).

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
First Edition	Nov 2024	