# Study Abroad Programme

The module description below is from the 2019/20 academic year and is subject to change, and for the use of study abroad students only.

| Module name | Econometrics |
|---|---|
| Module code | BM2205 |
| School | Cass Business School |
| Department or equivalent | UG Programme |
| UK credits | 15 |
| ECTS | 7.5 |
| Level | 5 |
| Delivery location (partnership programmes only) | |

**MODULE SUMMARY**

Module outline and aims

Students and practitioners in the areas of business and finance need to undertake empirical research. This module introduces you to the fundamental concepts of econometrics and its usefulness in analysing business and financial data. It is designed to give you a foundational understanding of why econometrics is necessary, to provide you with a working ability with basic econometric tools and illustrate their application in business and finance.

This module aims to introduce you to the basic econometric tools for empirical modelling, accustom you with applying these tools to estimation, statistical inference, and forecasting in financial markets and develop the necessary skills to critically interpret the results of econometric analyses.

Content outline

1. The univariate regression model:

 a. Ordinary Least Squares (OLS) estimation;

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b. main assumptions;

c. properties of the OLS estimator;

d. goodness of fit measures;

e. testing: t-tests, F-tests.

2. Mis-specification analysis:

 a. causes and consequences of mis-specification;

 b. tests for mis-specification: testing for homoscedasticity, serial correlation, normality of the disturbance term, linearity of the functional form;

 c. further data problems and modelling strategy: collinearity; the General-to-Specific approach; forecasting

3. Elements of time series analysis

 a. Main definitions: stationarity, white noise, autocorrelations and autocovariances

 b. AutoRegressive and Moving Average models; representation, identification through correlograms, identification criteria;

 c. introduction to non-stationarity and unit roots: the random walk; the Dickey-Fuller test.

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**WHAT WILL I BE EXPECTED TO ACHIEVE?**

**On successful completion of this module, you will be expected to be able to:**

Knowledge and understanding:

- demonstrate an understanding of the nature of statistical inference
- apply a range of techniques to solve practical problems in finance and business analysis
- study, either directed or on your own, advanced econometric techniques
- formulate and test appropriate models for the analysis of financial, economics or business data.

Skills:

- demonstrate practical computing skills;
- interpret the results from an econometric model;
- demonstrate transferable skills such as abstraction, analysis, deduction and problem framing.

Values and attitudes:

- understand the implications of correctly analysing data and reporting results;
- understand that reporting the same information in different ways may lead to different decisions;
- understand that all econometric results are subject to errors and uncertainty.

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**HOW WILL I LEARN?**

A variety of learning and teaching methods will be used in this course.

Lectures are used to introduce context, concepts and techniques illustrated with practical and current examples. You will also have the opportunity to participate in class discussions and work through examples and exercises with the support of the lecturer. It is strongly recommended that you attend ALL lectures.

In addition there will be regularly scheduled computer labs. The latter are intended to demonstrate the use of the econometric package EViews for the practical implementation of the material covered during the lectures using a data set provided by the lecturer. The course is highly participative; there will be exercises on the development of empirical models coherent with business and financial data and on the explanation of estimation outputs. You are also expected to devote an equivalent amount of learning time in private and/or group study and to work on the suggested exercises on a weekly basis.

Key learning and teaching resources will be put on the module website on Moodle.

In the independent study time you are encouraged to read widely and in depth around particular topics in preparation for lectures and tutorials. You may also spend time working through sample exercises and questions. In addition you will be preparing and undertaking your coursework assignments and preparing for your final examination.

*Teaching pattern:*

| Teaching component | Teaching type | Contact hours | Self-directed study hours | Placement hours | Total student learning hours |
|---|---|---|---|---|---|
| Lab Session | Practical classes and workshops | 10 | 50 | 0 | 60 |

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| Lectures | Lecture | 20 | 70 | 0 | 90 |
| --- | --- | --- | --- | --- | --- |
| Totals | | 30 | 120 | 0 | 150 |

**WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?**

Assessments

Assessment is based on a written examination and a group coursework. The coursework will be carried out during the term, and it will serve the purpose of helping you with your revision of the module content, in addition to providing you with an opportunity to apply the theory learnt in class. At the beginning of the term, a problem in business or finance will be assigned by the module leader to each group – students will be responsible for collecting data and apply the methodology taught during the module. The final submission will be a report which will be assessed by the lecturer, possibly (but only in exceptional circumstances) with a short viva. The coursework will be highly empirical, and you should demonstrate a sufficient understanding of the issues analyzed during the course. The written examination will be an individual piece of assessment.

*Assessment pattern:*

| Assessment component | Assessment type | Weighting % | Minimum qualifying mark | Pass/Fail? |
| --- | --- | --- | --- | --- |
| Coursework | Written assignment (essay) | 30 | 0 | N/A |
| Exam – 2.25 hours | Written Exam | 70 | 0 | N/A |

Assessment criteria

Assessment criteria are descriptions of the skills, knowledge or attributes you need to demonstrate in order to complete an assessment successfully and Grade-Related Criteria are descriptions of the skills, knowledge or attributes you need to demonstrate to achieve a certain

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grade or mark in an assessment.  Assessment Criteria and Grade-Related Criteria for module assessments will be made available to you prior to an assessment taking place. More information will be available in the UG Assessment Handbook and from the module leader.

Feedback on assessment

Following an assessment, you will be given your marks and feedback in line with the University's Assessment Regulations and Policy. More information on the timing and type of feedback that will be provided for each assessment will be available from the module leader.

Assessment Regulations

The Pass mark for the module is 40%. Any minimum qualifying marks for specific assessments are listed in the table above.  The weighting of the different components can also be found above. The Programme Specification contains information on what happens if you fail an assessment component or the module.

**INDICATIVE READING LIST**

**Latest editions of:**

Brooks, C. (2008) *Introductory Econometrics for Finance*. Cambridge: Cambridge University Press.

Gujarati, D. (2009) *Basic Econometrics*. London: McGraw-Hill.

Version: 2.0

Version date: February 2019

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For use from: 2019-20