Module Syllabus 2023 - 24

Key Module Information

Module Code: **ECOM073**

Module Title: **Topics in Financial Econometrics**

Credit Value: 15

Level: MSc

Semester: B

Pre-requisites: no prerequisites, econometrics is not a   prerequisite

Module Organiser

Name: Liudas Giraitis

Office Location: GC403

Office hours: Friday 2-4pm

Email: L.Giraitis@qmul.ac.uk

Module Delivery

Each week you will be expected to engage with material and exercises (independent learning activities) posted on the module's QMplus page, alongside attending and participating in scheduled teaching activities.

Details of the scheduled teaching activities will be in your timetable. This can be accessed via the My Timetable option in QMplus.

Lecture

Wednesday 09:00-11:00am
Bancroft: 3.26

Classes

Details of your class allocation can be found in MyTimetable on QMplus.

Thursday 11:00-12:00am
QB-212 PC Lab

Module Content

Module Aim

The aim of the course is to familiarise students with principal techniques in time
series analysis and their applications to economic data both theoretically and practically.

Learning Outcomes

On completion of this course the student should be able to:

--- build econometric time series models.

-- demonstrate understanding of modelling of stationary time series data

-- demonstrate understanding of modelling of non-stationary (unit root) time series data

-- produce forecasts

-- understand volatility modelling of financial data using ARCH, GARCH time series models

Module Outline

Module weekly syllabus

The outline of the course is based on the following syllabus. Some of the topics will be carried over
consecutive weeks:

1. Graphical analysis, simple and log returns.

2. Introductory concepts, stationarity, autocorrelation function, white noise process.

3. AR, MA and ARMA models.

4. Model selection and forecasting.

5. Non-stationary processes, unit root models, testing for unit root.

6. Seasonality.

7. Regression with time series.

8. Vector autoregression models and ARCH models.

Reading List

Basic readings:

Lecture Notes (hand-outs)

R. S. Tsay. *Analysis of Financial Time Series*. 2nd edition, Wiley, 2005.
S. Bisgaard and M Kulahci. Time Series Analysis and forecasting by example. Wiley, 2011

Assessment and Feedback

Assessment

20% midterm-test
80% final exam

Feedback

Students will be provided feedback on weekly quizzes and feedback on their work and performance.

Student conduct

To ensure a positive learning environment for all, the School of Economics and Finance expects all students to comply with the University's Code of Student Discipline policies. Details of these policies can be found here: https://arcs.qmul.ac.uk/students/student-appeals/misconduct/