

ST915-45 Mathematical Finance Dissertation

26/27

Department

Statistics

Level

Taught Postgraduate Level

Module leader

David Hobson

Credit value

45

Module duration

12 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module is core for students on the MSc in Mathematical Finance. It is not available to students on other courses.

[Module web page](#)

Module aims

To allow students to synthesise, apply and extend the knowledge they have gained in the taught component of the programme, and to demonstrate mastery of some elements of financial mathematics.

To demonstrate in-depth comprehension of an area of financial mathematics.

The focus of the dissertation may be to either

- Implement and provide a critical analysis of a set of quantitative models used in finance
- Use market data in performing statistical tests of a set of financial hypotheses
- Synthesise an area of theoretical research in financial mathematics, extending knowledge where possible and demonstrating mastery of the subject by expanding on the arguments

given in the literature.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Each student will choose/ be allocated an individual dissertation supervisor in Statistics, WMI or WBS. Students will be given group instruction on the dissertations and academic writing. The dissertation supervision will consist of individual supervisory meetings, accompanied by independent research and the writing of the dissertation. The subject of the dissertation can be any topic in financial mathematics chosen jointly by the student and the supervisor. Students will be required to write a dissertation proposal near the start of the dissertation period.

Learning outcomes

By the end of the module, students should be able to:

- Demonstrate an in-depth comprehension of the current literature in the topic area, including both the mathematical content and the financial application, and provide a critical review
- Explain the boundaries of current knowledge in the topic area within financial mathematics, and the limitations of the research project, including the conclusions which may be drawn from the project.
- Apply advanced theories, methodologies and techniques learnt during the taught component of the programme to a significant issue in research in financial mathematics.
- Put together a well-structured and concise proposal that demonstrates basic understanding of the relevant literature and the research topic that is to be tackled in the dissertation

Research element

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Subject specific skills

TBC

Transferable skills

TBC

Study

Study time

Type	Required
Lectures	4 sessions of 1 hour (1%)
Project supervision	4 sessions of 1 hour (1%)
Private study	442 hours (98%)
Total	450 hours

Private study description

Find, read and evaluate literature, plan and develop research question, collect and find data, carry out analysis, evaluate and interpret findings, communicate results and write dissertation.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Project Proposal	5%		Yes (extension)
You will submit an outline proposal for your research project. 500 words is equivalent to one page of text, diagrams, formula or equations; your ST915 Project Proposal should not exceed 2 pages in length.			

Weighting

Study time

Eligible for self-certification

Reassessment component is the same

Assessment component

Dissertation 95%

No

Due in September.

You will write up your research project in a formal Dissertation.

The stated number of words is indicative and you should follow further guidance in the course handbook.

Reassessment component is the same

Feedback on assessment

Individual feedback will be provided on the project proposal by the supervisor.

Students may request detailed feedback on one draft of the final dissertation from the supervisor.

Feedback and grades for the dissertation will be returned after the MSc examination board with the overall classification.

Availability

There is currently no information about the courses for which this module is core or optional.