



MSc in Mathematical Finance: Dissertation Information

The dissertation is a piece of academic research, which you will start after you complete the advanced modules, and which is normally submitted in the April of your third year on course.

Exceptionally, a candidate who cannot complete the dissertation may be awarded the Postgraduate Diploma.

Dissertation Topic

The topic of your dissertation should be different to those covered in your advanced module assignments. The dissertation is expected to contain original research, go beyond the material of the course and what is directly available in the literature, and needs to show proficient use of the techniques developed in the course.

You are encouraged to make a project proposal on a topic related to your work. You may consult your Provisional Supervisor for advice about your project topic and/or supervisor. You may want to propose an 'External' Supervisor – perhaps someone in an industrial setting. Please see the Supervision Information sheet for more information on supervision of the dissertation.

The deadline for sending in a dissertation proposal is 3 weeks after the assignment submission deadline for the last advanced module on which you are being assessed. You should submit the proposal by email to mathfin@maths.ox.ac.uk. If you cannot meet this deadline please let the administrative team know, and you should bear in mind that a delay in developing your proposal will reduce the time you have to work on the dissertation itself, which in turn may adversely affect the mark you receive for it.

The proposal will be 'vetted' by the Course Director. When it has been approved, you and your supervisor(s) will receive an email to that effect from the administrator. You should then work to make good progress on your Dissertation as soon as possible.

Format of Dissertation

Dissertations should be typeset in LaTeX (the style template can be found on the Mathematical Finance webpages), and have a scrupulously accurate bibliography, table of contents and acknowledgments. Figures and tables should be accurately referenced and captioned. Use of English and presentation of mathematical formulae should be correct and accurate.

Only your candidate number should be included on the dissertation, and not your name, email address or any other identifiable information.

The dissertation should be a maximum of 50 pages in length (excluding title page, abstract, bibliography and appendices). Penalties for pieces of work over this page limit may be incurred.

Submission of Dissertation

The Standard Submission Deadlines are:

- Michaelmas Term - 17 December, noon UK time
- Hilary Term - 19 April, noon UK time
- Trinity Term - 30 September, noon UK time

(if a date falls on a weekend then the deadline is the nearest Friday).

Submission of the MSc Dissertation will normally be at the end of the seventh term following the start of the course, (usually 19 April in the third calendar year). If a candidate has some unavoidable difficulty in meeting the deadline, say due to ill health, they may apply via their college to the Proctors for an extension. This must only be done in circumstances of the most extreme kind, and is reserved for cases of sudden and serious ill health or some other personal tragedy or catastrophe. Students must inform the Proctors via their college as soon as possible and before the submission deadline.

The dissertation should be submitted as a single pdf file, with any code etc. incorporated as appendices.

Please submit via the Mathematical Finance online system, ensuring you select the correct submission category:

<https://courses.maths.ox.ac.uk/node/1773>

If you are having trouble submitting please contact the administrative team as soon as possible.

Acknowledgements

In order to keep your piece of work as anonymous as possible for the markers, please refrain from mentioning individuals in your acknowledgements by name as much as possible. Please use 'my parents', 'my supervisor', 'my partner' etc instead.

Referencing and Plagiarism

Plagiarism is presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgment. This is also the case for your own previous work, which has been submitted towards this course or previous examinations. Your earlier work is citable, so you must reference clearly.

Under the regulations for examinations, intentional or reckless plagiarism is a disciplinary offence. When you submit your dissertation you will be required to confirm that the work is entirely your own, except where otherwise indicated, and that it has not been submitted either wholly or substantially for any other course.

The dissertation will be screened by Turnitin software, which will compare your work to a wide range of material and to the work of other candidates.

Marking of Dissertation

The dissertation will be marked by two separate markers, with a final mark proposed. This mark will then be considered in one of three Examination Board meetings that take place each year (either February, June or October), and your mark and final MSc award confirmed and released.

Assessment Criteria

The assessment of coursework and examinations in the programme, using the mark scheme indicated below, is based upon recognition of the following qualities:

Knowledge and Understanding

The examiners are looking for some of a student's own thoughts and contributions: students must do more than rehash text books and lecture notes; they should use original sources and must not plagiarise. In particular, the examiners look at:

- Range and depth in knowledge of mathematical techniques of analysis of use in finance covered in the course
- Appropriate selection of techniques for the analysis of finance problems and a knowledge of the limitations and strengths of models and techniques deployed

Argument and Reasoning

Proofs and assertions should be correct, the mathematics should be appropriate for the level of study, and any models used should be properly justified. The examiners will be assessing:

- Command of analytical skills appropriate for the study of finance
- Logical exposition and reasoning
- Clarity, completeness and concise expression in mathematical analysis

Presentation and Deployment

The mathematics must be clear and well laid out; the English should be clear and grammatically correct; sources should be properly acknowledged, references should be properly cited. Students should give some thought to notation, choice of typeface and numbering of equations and sections and the pages should be numbered. Students should be sure to supply complete and accurate references for all the sources used in completing the project, and be sure to cite them properly in the text. You will be judged on:

- Clear demonstration of the benefit of mathematical analysis of finance in argument
- Clarity in written (non-mathematical) exposition
- Appropriate deployment of literature

There is always a risk that a project might not succeed, especially if the original plan had involved significant original research. Although this is a rare occurrence, examiners are aware of the possibility. They accept that a well-written account of the work done, with an explanation of why the original aims were not met, can nevertheless be worthy of significant credit.

Mark Scheme

Each programme element will be awarded a mark on the University Standardised Mark (USM) scale between 0 and 100. A USM of 50 and above represents a Pass, and a USM of 70 and above represents a Distinction.

Criteria for USMs: dissertations, project reports and module assignments

70-100: **Excellent** – the candidate has demonstrated an excellent understanding of the material with a commensurate quality of presentation. The marks are further subdivided into:

90-100: The candidate has shown originality or insight that in the case of an assignment goes far beyond the material of the lecture course, and in the case of the dissertation contains some original work of potential publication standard.

80-89: Dissertations and assignments in this band show thorough knowledge and understanding of the topic with some original insights or interpretations. Presentation is very good. Assignments go beyond the material of the lecture course. Dissertations contain some original work.

70-79: Dissertations and assignments in this band are very good, well thought-out pieces of work with at most minor deficiencies in content, presentation or clarity of exposition.

60-69: Dissertations and assignments in this band may be good pieces of work with few deficiencies in content or presentation, but not significantly extending the material covered in the course; or they may have novel elements but also suffer from deficiencies in content, understanding, structure or presentation that prevent them from being of distinction level.

50-59: Dissertations and assignments in this band are of acceptable quality but have weaknesses in content, understanding, structure or presentation.

40-49: Dissertations and assignments in this band are not of acceptable quality and have significant weaknesses in content, understanding, structure or presentation. A major revision might raise the work to above a pass level.

0-39: This band indicates unacceptably poor work, showing extremely limited understanding of the topic covered and/or unacceptably poor presentation.

For your information, the full Examination Conventions can be found in the Course Handbook, which is published on the web at:

<http://www.maths.ox.ac.uk/current-students/graduates/taught-courses/mathematical-finance/handbook>

Permission to Publish

Once you have submitted your dissertation or project report, the Course Administrator will contact you so we are aware of your wishes as to whether your dissertation or project is to be published and if so, under what conditions.

Further Sources of Information

- [Mathematical Finance dissertation information for students](#)
- Course handbook – for academic penalties, marking criteria etc
- Supervision Information for students document
- [University policy on plagiarism](#)
- Dissertation proposal template
- LaTeX template
- Postgraduate diploma transfer form