

## MMATHPHYS/MSCMTP DISSERTATION GUIDANCE

### Introduction

You may opt to offer a dissertation as one or two of your ten units. Writing a dissertation offers a substantial opportunity for independent study and research and is undertaken under the guidance of a member of the Department of Physics or the Mathematical Institute. A dissertation involves investigating, and then presenting in writing, a particular area of Mathematical Physics or Theoretical Physics. You would not be required to (but may) obtain original results.

### Choosing a topic

A list of suggested dissertation topics is provided in Appendix C of the Course Handbook, but you are not limited to this list and may propose your own topic instead. If you have an idea for your own dissertation topic, you should discuss this with your Course Adviser, the Course Director, or one of the course lecturers, who may be able to suggest a potential supervisor.

### Applying to offer a dissertation

Students should approach supervisors directly whether following suggested topics in the Course Handbook or seeking a bespoke project from appropriate faculty members or research staff. Following discussion with, and agreement by, the prospective supervisor, students should complete the application at <https://www.maths.ox.ac.uk/members/students/undergraduate-courses/mmathphys-dissertation-application-form> by **Monday, week 6 of Michaelmas term**.

The Course Director should be consulted in advance for cases that might be controversial, for example, if the topic is very far from topics on the MTP schedule or if the supervision is not from a faculty member or a postdoc recommended by a faculty member in the Department of Physics or the Mathematical Institute.

Students wishing to propose their own topic need to submit a typed abstract of at least 100 words (but no more than one A4 sheet) together with a list of the main references they plan to use. Students should discuss their abstracts with their proposed supervisors before submitting their applications.

It is expected that the dissertation should not contain significant amounts of material in courses taken by the candidate. Candidates taking courses with significant overlap with the topic of their proposed dissertation should list those courses in their application and in the preface to the dissertation.

All abstracts will be considered by the Joint Supervisory Committee.

### Working on your dissertation

You should plan to begin work on your dissertation soon after your abstract has been approved. You are advised to bear in mind that you will need to balance your time usage in the Easter vacation and early Trinity Term between preparing for Trinity Term exams, working on your dissertation, and completing work for Trinity Term courses.

## Supervision arrangements

You can expect to have an initial meeting with your supervisor to discuss your dissertation, and then may meet with them again once or twice while you are working on your dissertation. Students undertaking a double unit dissertation can expect to meet with their supervisor three or four times while working on it. Your supervisor will read and provide feedback on the final draft of your dissertation (provided that it is submitted to them at least two weeks before the submission deadline).

## Submitting your dissertation for assessment

You should submit your dissertation via Inspira by **12 noon on Monday, week 6 of Trinity Term**. Please note the information in the Exam Conventions regarding the importance of submitting your work on time.

The submitted dissertation should conform to the following formatting guidelines:

- The dissertation must include an abstract and a bibliography.
- The dissertation must be word-processed and have a font size of 12pt.
- The dissertation should have a title page which includes:
  - the title of dissertation,
  - the candidate's examination number,
  - the title of the candidate's degree course,
  - the term and year of submission.
- The dissertation's length should not exceed 30 pages for a single unit and 60 pages for a double unit. The page count may exclude any table of contents, diagrams, tables, bibliography, and the text of any computer programs. Footnotes and appendices do count towards the page limit.

You may find the information and templates at the following link helpful when considering the format of your dissertation: <https://www.maths.ox.ac.uk/members/it/faqs/latex/thesis-class>.

## Assessment of dissertations

Please see sections 4 and 8.1 of the Exam Conventions for details of how the dissertations will be assessed.

Dissertations will normally be marked by the dissertation supervisor and blind-marked by one additional assessor. The marks of the two assessors will be reconciled following the procedure detailed in Appendix B of the Exam Conventions. The assessors of a dissertation that, in their view, shows particular originality and/or insight may recommend to the Examiners that the dissertation be given a commendation.

Please note: **Assessors will not be expected to read a dissertation beyond the specified page limit** when assigning their marks.

## Criteria for USMs:

**Distinction (70-100):** High quality work throughout the course. The candidate shows excellent knowledge of the material over a wide range of topics. The criteria for USMs in the distinction band are:

- 90 - 100: The candidate shows remarkable ability and true insights. Dissertations in this band will be worthy of publication.
- 80 - 89: The candidate shows outstanding problem-solving skills and outstanding knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.
- 70 - 79: The candidate shows excellent problem-solving skills and excellent knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.

**Merit (65-69):** The candidate shows very good problem-solving skills, and very good knowledge of much of the material over a wide range of topics.

**Pass (50-64):** The pass covers a wide range of results from candidates who show adequate knowledge of most of the material to candidates who show good knowledge of much of the material over a wide range of topics. The criteria for USMs in the pass band are:

- 60 - 64: The candidate shows good problem-solving skills, and good knowledge of much of the material over a wide range of topics.
- 50 - 59: The candidate shows basic problem-solving skills and adequate knowledge of most of the material.

**Fail (0-49):** The candidate shows an inadequate grasp of the basic material. Candidates may have shown some understanding but the majority of work is likely to show major misunderstanding and confusion, and/or inaccurate calculations.

- 40 - 49: The candidate shows reasonable understanding of at least part of the basic material and some problem-solving skills. Although there may be some good work, the majority of work will contain errors in calculations and/or show incomplete understanding of the topics.
- 30 - 39: The candidate shows some limited grasp of basic material over a restricted range of topics, but with large gaps in understanding. There need not be any good quality work, but there will be indications of some competence.
- 0 - 29: The candidate shows an inadequate grasp of the basic material. The work is likely to show major misunderstanding and confusion, and/or inaccurate calculations.

## 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 acknowledgement. All published and unpublished material—whether in manuscript, printed, or electronic form—is covered under this definition. Plagiarism may be intentional or reckless, or unintentional. Under the

examination regulations, intentional or reckless plagiarism is a disciplinary offence. See the University's guidance on plagiarism <http://www.ox.ac.uk/students/academic/guidance/skills/>.

### **Prizes for dissertations**

The assessors of a dissertation that, in their view, shows particular originality and/or insight may recommend to the Examiners that the dissertation be given a commendation. The Examiners will consider all such recommendations and announce any commendations after the final Examiners meeting. Additionally, a prize may be awarded by the Examiners for the best dissertation.