

## Guidelines for Dissertations

### Introduction

You may opt to offer a dissertation as one, or with special permission two, of your ten units. A dissertation offers a substantial opportunity for independent study and research, and would be 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 (but may) obtain original results.

### Choosing a topic

A list of possible dissertation topics is given in Appendix D 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 academic adviser, the director of studies, or one of the course lecturers who will be able to suggest a potential supervisor. You are also warmly encouraged to approach academics yourself. As a starting point, click on the different research areas in Mathematics and Physics below to be directed to their webpages, where you can contact those who work in the area you are interested in.

- Astrophysics
- Atmospheric, Oceanic and Planetary Physics
- Atomic and Laser Physics
- Condensed Matter Physics
- Mathematical Physics at the Maths Institute
- Oxford Centre for Industrial and Applied Mathematics
- Particle Physics
- Rudolf Peierls Centre for Theoretical Physics

Your supervisor must hold a doctorate and be an academic from the University of Oxford. The list [here](#) shows those who have indicated they are unable to supervise student's dissertations for 2020-21, so please check the list before contacting someone.

### Applying to offer a dissertation

If you intend to undertake a dissertation you will need to notify the Joint Supervisory Committee. As such you are advised to start thinking about your dissertation and make initial contact with potential supervisors, when necessary, during Michaelmas term.

Students wishing to apply to take one of the dissertations listed in the handbook should complete the online application form via the following link: <https://www.maths.ox.ac.uk/members/students/>

**undergraduate-courses/mmathphys-dissertation-application-form** by Monday of week 6 of Michaelmas term. The allocation of dissertation topics to students will be decided by the Director of Studies in consultation with the supervisors.

Students wishing to propose their own topic need to submit an online application via <https://www.maths.ox.ac.uk/members/students/undergraduate-courses/mmathphys-dissertation-application-form> by Monday of week 6 of Michaelmas term.

You should submit to the Joint Supervisory Committee a typed abstract of at least 100 words (but no more than one A4 sheet) together with a list of the main references you will be using. You should discuss your abstract with your proposed supervisor before submitting your application. All dissertations are double marked. The first marker will normally be the supervisor.

## Second Markers

Before an academic agrees to supervise your dissertation, **they should have obtained permission from a colleague who will be able to act as the second marker**. Please direct your proposed supervisor to this section of the dissertation guidance, and ask them to submit the name of the second marker to [mathematical.physics@maths.ox.ac.uk](mailto:mathematical.physics@maths.ox.ac.uk). As dissertations are blind marked by the second marker, please ask your proposed supervisor **not** to share the name of the second marker with you, but only e-mail the name to [mathematical.physics@maths.ox.ac.uk](mailto:mathematical.physics@maths.ox.ac.uk). Your proposed supervisor should not disclose your name to the proposed second marker, but only share the topic and abstract with the colleague.

Please ask your proposed supervisor to inform you once they have e-mailed the name of the second marker to the administration, and then submit your abstract. Further information regarding the dissertation marking process can be found in section 4 of the Examination Conventions.

## Double Unit Dissertations

If you wish to offer a double unit dissertation, you will be required to obtain permission from the Course Director (by emailing [mathematical.physics@maths.ox.ac.uk](mailto:mathematical.physics@maths.ox.ac.uk)) prior to submitting your application form. The steps for offering a double unit dissertation are as follows:

- E-mail your request to undertake a double unit dissertation to [mathematical.physics.ox.ac.uk](mailto:mathematical.physics.ox.ac.uk). Please attach your abstract if the topic is an original one. If the topic is from the handbook, please mention this in your e-mail.
- Your request will then be passed on to the course director Prof. Lionel Mason, who will be able to grant approval for your request, or ask for more information if necessary.
- Once approval has been granted, please submit your abstract via <https://www.maths.ox.ac.uk/members/students/undergraduate-courses/mmathphys-dissertation-application-form> indicating that you will be undertaking a two unit dissertation.
- The Joint Supervisory Committee will then review all abstracts after the application deadline of Monday, week 6 in Michaelmas term. You will receive a response before the end of Michaelmas term.

To summarise, the course director approves the undertaking of a double unit dissertation, and the Joint Supervisory Committee approves of the topic itself.

## Working on your dissertation

You should plan on beginning work on your dissertation soon after your abstract has been approved. You are advised to bear in mind that you will need to use your time in the Easter vacation and early Trinity term wisely to balance preparing for the Trinity term exams, working on your dissertation, and completing work for other courses you may be taking.

## Supervision arrangements

You can expect to have an initial meeting with your supervisor to discuss the dissertation you are undertaking, and then may meet with them again once or twice while you are working on your dissertation. Students undertaking a two 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

The submission deadline for dissertations is noon on Monday, week 6 of Trinity term. Students will be required to submit their dissertation electronically via the Mathematical Course pages via <https://courses.maths.ox.ac.uk> 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 points.

- The dissertation must include an abstract and a bibliography.
- The dissertation must be word-processed and have a font size of 12pt.
- The text should be double spaced
- The dissertation should have a title page which includes the following:
  - the title of dissertation,
  - the candidate's examination number,
  - the title of the candidate's degree course,
  - the term and year of submission.
- Its 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 texts of computer programs. However any footnotes and appendices must be included.

You may find the following links helpful when considering how to format your dissertation: <https://www2.physics.ox.ac.uk/study-here/postgraduates/particle-physics/guidelines-for-thesis-writing> and <https://www.maths.ox.ac.uk/members/it/faqs/latex/thesis-class> If you would like to access a LaTeX template which meets the requirements for MMathPhys Dissertation Submission, this can be found [here](#)

## **Assessment of dissertations**

Please see section 4 and 8.1 of the exam conventions for details of how the dissertations will be assessed.

## **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 regulations for examinations, intentional or reckless plagiarism is a disciplinary offence. Please see the University's guidance on plagiarism

<http://www.ox.ac.uk/students/academic/guidance/skills/plagiarism> for further information.

## **Prizes for dissertations**

The assessors of a dissertation that, in their view, shows particular originality and/or insight may recommend to the Examiners that this dissertation be given a commendation. A prize may be awarded by the examiners for the best dissertation.