

Guidance on Projects: Considering the Option

Friday 19 June 2009

Oxford FHS in Mathematics and Joint Schools

- Introduction
- The options
- Overview of what is involved
- Choice of topic and supervisor
- Formalities: the proposal
- Content of a thesis

Introduction

Plan for this session: to offer general advice and suggestions, with time for questions and discussion, both as we go along and at the end.

Assumption: that you are in your 2nd or 3rd year reading Mathematics or a joint School with Mathematics and beginning to plan your 3rd- or 4th-year options.

What are the project options?

Third Year—H level:

BE: Mathematical extended essay, 7500 words

OE: Other extended essay, 7500 words

Fourth Year—M level:

- Full unit Mathematical dissertation, 10000 words
- Half unit Mathematical dissertation, 5000 words
- Full unit Other dissertation, 10000 words
- Half unit Other dissertation, 5000 words

Why choose the project option?

Engaging in the research for a thesis is a different way of learning mathematics deeply—and it's exciting

Writing a thesis develops valuable skills different from those learned through more traditional courses

The timing of the project option permits adjustment of workload over the year

Some students find writing a thesis more successful than writing a 3-hour examination against the clock

Overview of what is involved

- Choose a topic and a supervisor—your Tutor can advise
- Apply for approval:
submit proposed thesis title, with abstract, reference list and name of supervisor **BY** 12 noon, Friday, Week 3, MT
- Do the work!
At any time from long vacation to Hilary Term
- Give informal presentation towards end of HT;
submit thesis **BY** 12 noon, Friday, Week 9, HT.

Choice of topic and supervisor

- Choose a topic that interests you! Perhaps you have your own idea. Perhaps your College Tutor has ideas. The Faculty publishes a list of suggestions. There are plenty of lists of suggestions on the web.
- If supervisor is hard to find then perhaps your topic is unsuitable.
- With supervisor ensure topic is suitably mathematical and suitably substantial. **We'll come back to this.**

When to Begin

- **Think about your topic and start looking for a supervisor NOW. If you wait till Michaelmas Term it may be too late.**
- **You may want to start reading over the vacation; but remember that projects will not be approved until Michaelmas Term.**

Formalities

- **Address proposal to:** Secretary to Projects Committee, Mathematical Institute.
- **Submit application on standard form.**
- **Application must be received by 12 noon on Friday of Week 3.**
- **Projects Committee sometimes seeks modifications before approving—in which case it gives guidance.**
- **Most applications are approved by MT Week 5.**

The proposal

- **Should be \geq 100 words (but at most one page).**
- **Should be understandable by non-expert members of Projects Committee.**
- **Should have sufficient information for committee to judge scope and content.**
- **Should include main references—to help give context and idea of scope and content.**

Appropriate depth and content, I

It is impossible to be specific on appropriate depth and content but here are guidelines.

- **The H-level essay is 7500 words; the M-level dissertation is 10,000 words (or half-unit 5000 words)**
- **It is equivalent to two 16-lecture courses (or one)**
- **H-level essay should be Part B level material, or exceptionally Part A; M-level dissertation should be Part C level material, or exceptionally Part B.**
- **Projects Committee more often worries that a proposal is too big than too small.**

Appropriate depth and content, II

- The subject should be adequately mathematical:
- For OE essays and OD dissertations a project closely related to mathematics is fine
- For BE essays and CD dissertations the project should be mathematical
- But this does not preclude historical or philosophical topics, nor topics where the focus is on applications outside mathematics (such as advanced applications of relatively non-advanced mathematics), etc.

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