

MSc in Mathematical Modelling and Scientific Computing

Guidelines on Special Topics

Michaelmas Term 2018

1 Objective of a Special Topic

The lectures for the course should provide a broad overview of a topic but the purpose of the special topic is that it will allow the student to go into more depth in one particular area of the course that they find particularly interesting. This will involve reading material beyond the lectures and writing a report of about 15 pages. Original research is not expected.

There is a list of special topic courses available which has been publicised in the course handbook and online. Students are expected to choose 3 special topics from this list including one modelling [M] and one computation [C] based project.

2 Choosing a Topic to Write About

The subject of the special topic must be agreed between the lecturer and the student. The student should have an idea of which area they would like to focus on and it is expected that the lecturer would help to refine the project and suggest several appropriate references.

Alternatively, the lecturer may prefer to provide a range of short project descriptions from which the students can choose a topic. It is important to point out that just following one source will not be sufficient when writing the special topic. Assessors will be alert to the possibility of plagiarism and the board of examiners will deduct marks for derivative or poorly referenced work.

Once the special topic has been agreed the student will be expected to do the work on their own without further assistance from the lecturer. However, a student may consult his/her supervisor on general issues. In particular a draft of the special topic may be shown to the supervisor before final submission. In the event that the lecturer is the student's supervisor, the student may consult the Course Director.

3 Key Indicators of a Good Special Topic

- The mathematics described in the project should be correct.
- The report should be well presented, both in terms of the layout and the clarity of the mathematical expression.

- The report should demonstrate that a range of sources has been consulted (and these should be referenced appropriately). A suitable critical literature review would be an appropriate form for a special topic report.
- For computation based special topics, labelled [C], demonstrating the practical implementation of algorithms, interpretation of results and comparison to theory is another possible format for a special topic.
- For mathematical or other special topics, labelled [M] or [O], additional details should be provided over and above what is given in the source materials. For example, extra steps in the calculations could be given, alternative methods could be used, or there could be an alternative derivation of a model along with a critical discussion of the modelling ideas. In all cases this should allow the student to demonstrate understanding of the source materials.
- Overall, the student should have shown a good understanding of the subject area described in the project and have interpreted the material well (e.g. by comparing different approaches to a problem or unifying diverse treatments).

4 Length of Special Topic Report

Students are expected to write approximately 15 pages. Students may write up to 20 pages without penalty. Penalties for longer submissions are given in Table 1. The page limit includes the whole main body of the special topic (i.e. all text, mathematical equations, figures, tables, abstract, table of contents etc.) but excludes the references, title page (unless this contains more of the project than just the title and your candidate number), and the appendices which the assessors are not obliged to read. A minimum of a 12pt font size must be used, the width of the text should be at most 15cm (6 inches) per page and the height of the text should be at most 22.5cm (9 inches) per page. The spacing of the text should be at least one and a quarter spacing (use a `baselinestretch` of 1.25 in \LaTeX).

Length of special topic	Penalty (USMs)
21 pages	1
22 pages	5
23 pages	10
24 pages	20
25 pages	30
26 pages	40
27 pages or more	50

Table 1: Penalties for over long special topics.

5 Submission of Special Topics

Two hard copies of the special topic, along with a completed declaration form available from <https://www.maths.ox.ac.uk/members/students/postgraduate-courses/msc-mmsc/special-topics>,

should be submitted to the Course Administrator or another member of the Academic Administration team in room S0.16 by the deadline. In addition, an electronic version of the special topic should be submitted.

5.1 Marking of Special Topics

The lecturer will usually mark the special topic themselves and the special topic will also be independently marked by another assessor. Special topic marks are awarded by the examiners on the recommendation of both assessors. If the assessors' marks do not differ by more than 10 marks, the final special topic mark will usually be the average of the two marks (rounded up to the nearest whole mark if necessary). However, if the marks are on opposite sides of the pass/fail borderline or differ by more than 10 marks there will be further discussion between the assessors in order to try to reach a decision on a final mark. In the unlikely event the two assessors are unable to agree on a mark the examiners will be consulted and, if necessary, a third assessor appointed in order to make a final decision on the mark.

5.2 Plagiarism

Students are advised to read the University's policy on plagiarism which may be found online at: <https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism>.