

MATHEMATICAL INSTITUTE
DEPARTMENT FACULTY MEETING

Teaching Strategy Proposals – Dissertations and Intercollegiate Classes

1. Overview

Over the course of the 2022/23 academic year, there have been several working groups focusing on teaching education strategy and reviewing areas for improvement. The working groups cover these areas:

- Dissertations
- Intercollegiate Classes
- Computational Mathematics
- Part A
- Examinations Database

The following proposals focus on changes to dissertations and intercollegiate classes from 2023/24 and beyond. The proposals will be made over a two-year period, with 2023/24 being a transitional year that will introduce some initial changes and seek further feedback from students and staff, with a view to implementing more concrete changes in the 2024/25 academic year.

These proposals are informed by discussions from the Dissertations and Intercollegiate Classes Working Groups, Teaching Committee and feedback from the student consultation event held in early Hilary term. These proposals seek to address the problems raised with dissertations and the intercollegiate class scheme, and to ensure that dissertations and intercollegiate classes are beneficial for our students and fit for purpose in the future.

2. Action required of the Committee

Members of the department are asked to express their views and to endorse the proposed changes for 2023/24 and 2024/25, as set out in sections 4 and 5 below.

3. Summary of Issues and Concerns

Dissertation supervision

- The current supervision structure does not allow enough time for the teaching of general study and research skills. The Working Group agrees that the dissertation should aim to increase the student's transferrable skills following the end of their degrees. For instance, reading and writing research, presentations, time management and meeting deadlines.
- Dissertation allocation is done very late, and students only meet with their supervisors once during Michaelmas term, meaning most of the dissertation workload occurs in Hilary term. In the student consultation event, many students expressed dissatisfaction with the timeline for dissertation allocation.

- At present, supervisors are instructed to distribute 4 hours of supervision among their group of students, preferably in the form of 4x1hour group sessions (although shorter 1-on-1 sessions can be held at the supervisor's discretion). In practice projects start to diverge significantly after the first few group meetings so group supervision is of limited use. The level of supervision varies hugely between supervisors and consequently students do not currently receive equal amounts of guidance and support.

Formative feedback

- In the student consultation event, students report that formative feedback at Part C is only provided through problem sheet marking.
- No formative feedback is offered prior to the dissertation submission deadline and the lack of supervision time means that students receive differing levels of instruction on their writing style.

Intercollegiate Class Scheme

- Recruitment of a Class Tutor (CT) and a Teaching Assistant (TA) for every set across all Part B, C and MSc courses is fast becoming untenable.
- Recruitment requires multiple chases and significant time and effort on part of lecturers, subject panels and Academic Administration to find teaching staff.
- Heavily oversubscribed courses often struggle to recruit, particularly for specialist courses with small panels. Examples include B1.1 Logic and B1.2 Set Theory.

Intercollegiate classes - student experience

- Based on the feedback from the student consultation event, students do not feel that classes run in the right format. Too much emphasis is placed on going through problem sheets, rather than focusing on things that students struggled with.
- Students report that they really want feedback on their work. Feedback on problem sheet work is variable, although many students acknowledge the significant burden TAs are under to provide more detailed marking.
- Problem sheet solutions are not released to students, and many report that having these before the class would be helpful.

Intercollegiate classes – Teaching Assistants (TAs)

- TAs are subject to heavy marking workloads, and feel that they are not adequately compensated for tasks such as class preparation and filling out session reports.
- Many TAs do not feel that they can give sufficient feedback to students through marking work, particularly for large classes.

Over-reliance on DPhil students to carry out intercollegiate class teaching

- In 2021/22, 70% of Mathematics DPhil students delivered some teaching, and are responsible for 66% of the overall class teaching load.
- 97% of TA duties are fulfilled by DPhil students.
- Success of the ICC scheme relies on the goodwill of DPhil students. In 2021-22, 24% of total classes are taught by DPhils with no contractual obligation to do so.

Faculty workloads are unsustainable

- There are currently not enough incentives to encourage faculty to offer dissertations alongside other commitments which has led to a reduction in dissertation topics in recent years despite the dissertations becoming compulsory at Part C.
- 20% of APTFs carried out intercollegiate class teaching as a class tutor in the 2021-22 academic year, compared to 48% of DPhil students.

4. Proposed Changes for 2023-24

Workload

- Subject Panels will be asked whether they would consider “pausing” any Part C lecture courses, perhaps replacing with a dissertation on that subject area, with a view to reducing the panel’s workload. There will be no obligation for Subject Panels to do this.
- Stint review will take place, taking dissertation supervision into consideration. This stint review should cover all faculty members, including statutory professors and PDRAs as well as APTFs and APNTFs.
- Problem sheets - the structure of the problem sheets and the time required to mark them will be monitored and enforced.
- Further discussions in relation to consultation sessions are on-going – it is hoped that changes will be implemented with the view to reduce workload, while providing suitable revision session opportunities for students.

Dissertations

- Dissertation supervision will be increased from 4 hours per group to 6 hours per group to give students more contact time with faculty. It is felt that is a more accurate representation of what is currently taking place.
- Dissertation allocation could be done earlier. Choices could be circulated to students in September, allocations confirmed in early Michaelmas term, with dissertation supervision starting in Week 3 of Michaelmas term.
- Collation of dissertation specific guidance and resources, as well as sessions on general support skills for producing dissertations.

Intercollegiate Classes

- Part B intercollegiate classes – problem sheets will be reformatted into the Part A, B and C structure seen in Part C problem sheets. This will reduce the marking workload for TAs and allow them to give sufficient feedback to students.
- Part C intercollegiate classes – only problem sheets 1 and 3 will be marked, and TAs are not required to be present in classes.
- Problem sheet solutions will be released for Part C sheets that are not being marked.
- Large courses – a pilot of having 1 or 2 very large classes (30-50 students) run by a DPhil class tutor with multiple markers who are not required to attend classes. The course lecturer will offer 4 office hours to give students the opportunity to ask questions. Office hours can be held either in person in classrooms or via Teams.
- TAs will be paid an additional 2 hours of preparation time in Week 1 or 2 of term per set of classes, unless they are doing multiple sets for the same course.

- Enhanced intercollegiate class training will be given to DPhil students, as well as improved guidance for TAs.
- Specific student consultation will take place on whether the department should consider releasing all problem sheet solutions instead of marking work at Part C.

5. Proposed Changes for 2024-25

Workload

- Subject Panels will be asked to review their course offerings at Parts B and C and possibly reduce the number of their courses at Part C.
- They will be asked to consider the alternative forms of assessment presented by Teaching Committee in 2023/24.

Dissertations

- As part of the stint review, dissertation supervision could be increased further. In an ideal world, best practice would be 4 hours per student rather than per student group, although workload reduction will need to be made elsewhere to accommodate this. As a more realistic alternative, supervision could be increased to 8 hours per group of 4 students, with this scaled by number of students per group.
- Reformatting dissertation presentations to make them more helpful and provide more formative feedback to students. Presentations would be grouped by subject area and two Subject Panel assessors need to attend, along with students within that subject area. Students and assessors can then provide feedback to students. Presentations could then also potentially be included as part of the dissertation assessment.
- Increasing formative feedback provision by inviting students to submit a short sample of their dissertation (contents page, overview and 1-2 pages of mathematical writing) to their supervisors so that they can review and provide feedback (this could be brought forward to 2023/24 if this is considered reasonable).

Intercollegiate Classes

- Based on feedback from students in the 2023/24 academic year, Teaching Committee will consider further reducing marking at Part C if appropriate.

Assessments

- Teaching Committee will consider alternative forms of assessment for Part B and C courses in 2023/24, and the impact that this may have on workload and examination conventions.

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