Consultative Committee for Mathematics in the Natural Sciences

DRAFT Minutes of a meeting held on
Friday 15th February 2013 at 3.00 p.m.,
in Meeting Room 9, Centre for Mathematical Sciences, Clarkson Road

Present: Dr Ben Allanach, Dr Sue Colwell (Convenor), Dr Harvey Reall, Dr Mark Spivack, Dr Alex Thom, Miss Alex Howes, Mr Oliver Jackson, Mr Matej Vecenik.
Apologies: Dr Chris Lester

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1. Minutes of previous meeting and matters arising.

The minutes of the previous meeting were agreed.

2. Part IA, A course: Miss Howes reported.
Lecture Course: Dr Dalziel.

The lecturer has given out handouts which have 2 pages on 1 A4 sheet which the students think is too small, and doesn't give them room for annotations. The handouts on line sometimes rely on the use of colour for clarity, but as this is not reproduced in the hard copy it can lead to confusion. There are a lot of examples in the handout, and the lecturer is clear on what is needed for the exam. He has given a summary which was very useful.

When the lecturer goes through examples in lectures, he writes things up and students copy them down. Sometimes he writes too small and too illegibly, for example his Us and Vs were indistinguishable. The students find Greek symbols confusing, and think he should stick to more familiar ones. The senior members of the committee disagreed.

The students would like the lecturer to do the easy examples first, and then the harder ones. They also commented that he goes through examples too fast, and hence makes typo style mistakes. Some students find the logic of steps difficult to follow and ask that he slow down or write more clearly, and talk to the audience and explain each step in more detail.

He puts some slides from the previous lecture up at the start of each lecture, which is helpful, but the students ask if he could put them up earlier so that people could have a chance to copy them.

The students would like more questions on the examples sheets; harder ones would be useful. They also request that answers to Tripos questions be put on-line.

The attendance has been falling off a bit, and there are now about 150 people attending. Some people have chosen not to attend the lectures, but those who do come are attentive.

3. Part IA, B course: Mr Jackson reported.
Lecture Course: Dr Borzym.

The lecture is audible (very much so) and legible and entertaining. She has a very effective way of discouraging latecomers – she talks to them as they come in. There were a few initial problems with timekeeping, and the fonts on the notes being too small, but those have now been resolved. The notes have gaps in them, but there is not enough time in lectures to fill them in, and so the students request a handout with fewer gaps. They also commented that the lecture notes on-line are not complete (Note added after meeting: the notes on line are now complete).

The difficulty of the material is fine, but the pace is a bit fast. People listen attentively, but not out of interest, more in case they miss anything. The approach is not too abstract, it is definitely practical. The examples sheets are good, and there is a good range of questions, from the easy to the very hard.

The attendance has been improving, and the lecture theatre is still over full. It is not clear whether this is because people are changing from the A course to the B course.

4. Part IB course*:* Mr Vecenik reported.

Lecture course: Prof Townsend

The lecturer's printed notes aren't perfectly aligned with the lectures, and so it is quite hard to follow them during lectures. He writes out all the steps, but it is hard to match up what is in the lectures with what is in the notes. No one can concentrate for the entire time as the material is difficult, and it is hard to separate crucial derivations from the rest. The students would appreciate it if e.g. key points could be indicated, e.g. by a line at the side of the notes and people have asked for summary sheets. Quite a few people (perhaps 15-30%) use RHB instead as they find it easier to understand than the notes.

Nevertheless the students like the way he lectures. He makes historical remarks which people enjoy, and no one has complained about the material, in particular people liked the calculus of variations. This is substantiated by Dr Lester, who was unable to attend the meeting, but had commented by e-mail that his own students had been *really* excited by the calculus of variations part of the course that they'd just been seeing, and also by the Sturm Liouville part. His impression was that either they were good students, or this part has been lectured well, or both.

The students have pointed out that Question 15 on the first examples sheet was identical with one set last term, and ask that lecturers on the different courses should compare notes.

The attendance is steady, and the room is quite full, but there is always a seat.

Computer course: Dr Colwell

Students had commented that they were happy with the idea of playing with numerical analysis, but didn't like doing it in EXCEL. The Convenor said that there had been plans to update the course to use MatLab, but this depended at least partly on the success of the IA Computer course which was no longer administered by the maths department. The students commented the IA MatLab booklet could have been better, but the practice sessions were useful. There followed a discussion about the suitability of MatLab, and the use students now made of things like Wolfram Alpha.

6. Any other business.

Motivated by a recent discussion of the syllabus committee, Dr Reall asked whether IA in general was too hard. The IA A course representative said that the average level was about right, and she had heard no complaints about the difficulty of the material. The IA B course rep said that some of the examples are harder than the examples sheet questions.

The IB representative commented that, in retrospect the difficulty had been about right overall apart from in the section on partial differentials. He had found that very hard and couldn't get a feel for it although the examples sheet did give some degree of feeling. Other members of the Committee commented that this section of the course often causes difficulty, and Dr Lester had commented by e-mail that some of his students were struggling a bit with this part of the material. The IB course fits well with Physics, but not so well with Chemistry. In particular the Sturm Liouville stuff doesn't seem to fit.

In response to a question about books, the IAA course rep said that RHB clears up the lecture notes. The IAB course rep said that it was useful to fill in the lecture notes as it was so thorough.