Consultative Committee for Mathematics in the Natural Sciences

Minutes of a meeting held on
Thursday 13th February 2014 at 1.00 p.m.,
in Meeting Room 1, Centre for Mathematical Sciences, Clarkson Road

Present: Dr Sue Colwell (Convenor), Dr Chris Lester, Dr Mark Spivack, Dr Alex Thom, Mr Will Grover, Mr Cornelius Roemer.
Apologies: Professor Ben Allanach , Dr Harvey Reall, Mr Josh Kellie.

1. Minutes of previous meeting and matters arising.

The minutes of the previous meeting were agreed.

2. Part IA, A course: Mr Kellie, who was unable to attend reported by e-mail.
Lecture Course: Prof Ogilvie.

The comments Mr Kellie had gathered indicated that people felt that the lecturer has been a little dry in his delivery of the material, and they would prefer it if the course could be slightly more focussed on the scientific applications rather than just the maths. The atmosphere in the A course lectures appears to be more a sense of obligation than of interest. The lecturer hands out comprehensive notes, and many people would prefer that he did not. They prefer having to write things down and fill in gaps along with the lecturer to keep them attentive, and to have had the experience of working a problem through.

Some of the better prepared students who chose the A course so that they could devote more time to their other subjects feel that the A course is not in fact challenging them enough.

Dr Lester, the Staff representative from Physics, commented that the examples sheets had been changed, and some questions had been reworded to make them ill-defined or ambiguous. Some apparently random questions had found their way on to the sheets without pointers as to why they were relevant. He suggested there should be better co-ordination when examples sheets are modified.

It seems that attendance fluctuates because the complete notes discourage attendance as people feel they can just read the notes and would just be going through the material twice if they went to the lectures.

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

The students like the lecturer's style; she is bubbly and enthusiastic, boosts people's confidence, and she clearly knows her stuff. She asks the audience whether they understand and people do ask questions. She hands out notes that are complete with no gaps which are very comprehensive and free of typos. In lectures she puts the complete notes up on the screen, talks through them and points things out. She sticks strictly to the notes which some people find constraining. Occasionally she does ask people to write things down, and then there is no room to do so. Some people would prefer it if she did write more stuff up but they appreciate the noted being comprehensive so they can catch up if they have to miss lectures. The notes contain lots of examples ranging from easy ones to old Tripos questions. She goes through them very clearly and she spends time on skills they are going to use, and she makes it obvious why they need to use a particular method which the students find very helpful. They feel she is teaching them some mathematics, but is relating it to the sciences as well, and is indicating what they will need in the future. There were a couple of minor criticisms: the lecturer uses an orange pen which doesn't show up very well, the projection screen chops off the edges of the slides and sometimes she writes too quickly.

The Examples sheets contain a good range of questions with a good mixture of difficulties and the lecturer has given "naked answers" on CamTools. Students would like the notes (or the examples sheets) annotated to indicate which parts of the notes are relevant for each question.

The pace has been comfortable, but people have been a bit worried that they might not get through the course. The lecturer has been told about this and has now sped up. Also, the lectures are supposed to start at 9.00, but sometimes (partly because the class is still arriving) they do not start until 9.05, and people are worried that they are getting short lectures. The attendance has been reasonable except on Saturdays.

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

Lecture course: Professor Townsend

Mr Roemer had received quite a few comments, an edited copy of which are attached to these minutes.

This term's lecturer has a very different style from last term's. Even though he has provided a complete handout with the only gaps being for the figures, he writes everything up on the OHP during the lectures. The printed notes contain a few more words than his lectures, but the material is just the same. He says relatively little extra, and everything he says is obviously well thought through. Some people find that it makes it less vital as fewer unexpected things happen. People have started writing down a lot in lectures, to see whether it helps them maintain their attention. The pace is stable, probably because he is writing everything down.

The balance of theory and examples is very much towards the theory side; he uses few examples whereas last term people felt that examples were used instead of explanation. Some people would like more examples, but the ones he gives are well chosen. The level of rigor is higher this term, but not inappropriately so given the time constraints, and he does explain when he is sacrificing rigour for practicality. The material fits well with Physics, e.g. the Sturm Liouville theory fit well with Quantum Mechanics, and the PDEs fit well with Electromagnetism. The Chemists have complained that the lectures do not cater to non-physicists, and that there was an example on the examples sheet that involved knowledge of physics. The senior members of the Committee commented that the Syllabus Committee continually reviewed the material to ensure it was relevant for all the students taking the course, and as far as possible taught in an order that fitted well with the other courses.

Unfortunately the Examples Class (2.15 – 4.15 Weds) clashed with the Astrophysics options talks (2.30 – 4.30 Weds) and as many people would have liked to go to both there was a request that this clash be avoided in future.

The examples sheets questions are quite good. They are not too easy and so make you go through the notes completely, but they are solvable, with difficulty.

The lecturer is audible and legible, but he sometimes makes minor typographical mistakes. The attendance is not very good now, there are quite a few empty seats as people think they can just read the notes at home (whereas last term they thought they could just read a good book.)

5. Any other business.

There was a discussion about the merits of printed handouts versus notes written out in the lectures with students taking their own notes. As usual opinions varied. It was pointed out that whilst writing notes out on a blackboard or OHP was the norm for the Maths Tripos, it was less common in the Natural Sciences Tripos. Natural Sciences lecturers were encouraged to provide comprehensive notes, but the style of delivery of the material was not prescribed.

Feedback on IB Course Feb 2014.

Praise 1

1. He's my favourite lecturer - the fact that he writes out the lecture by hand means that he gets the pace just right, the lecture follows a logical train of thought, and I have got more out of this lecture course than any of the others so far, and it's only lecture 10! Please can more lecturers hand write the lectures.
2. I'm quite happy with the maths lectures. I find that the content is interesting, the pace and delivery are good, and the comprehensive printed notes are excellent.

Complaint 1

1. He keeps standing in front of the projector after writing something which makes it impossible to read. The lectures essentially just go over the notes with no real additional content. Makes attending the lectures pointless, I might as well just read the notes on my own; it's pretty much what I do in the lectures anyway.

Constructive Criticism

1. I'm not a physicist and I feel like the lecturer doesn't cater for people who haven't chosen physics as an option.
   I don't mind having physics relevant examples, but he sometimes don't give enough of an explanation to make them accessible to non-physicists and one of the questions on the examples sheet needs a physics equation.