

Consultative Committee for Mathematics in the Natural Sciences

*DRAFT Minutes of a meeting held on
Thursday 11th February 2016 at 4.15 p.m.,
in Meeting Room 20, Centre for Mathematical Sciences, Clarkson Road*

Present: Dr Sue Colwell (Convenor), Dr Austen Lamacraft*, Dr Jorge Santos, Dr Mark Spivack, Dr Christopher Thomas*, Ms Eleanor Sheekey, Mr Deaglan Bartlett, Mr Peter Gerlagh.
Apologies: Dr Alex Thom.

Dr Lamacraft and Dr Thomas were unable to attend the first part of the meeting because of a meeting of the Syllabus Committee.

The results of the the Lent Term second week questionnaires were available at the meeting and the student representatives were given time to read them before making their comments.

1. Minutes of previous meeting and matters arising.

The minutes of the previous meeting, which had not been circulated earlier, were tabled, and the convenor invited comments and corrections by e-mail.

2. Part IA, A course: Ms Sheekey reported.

Lecture Course: Professor Manton.

The teaching style is different from last term as students have to write down their own notes which makes them pay attention. The lecturer gives a handout for about six lectures, but what he writes down in the lectures is different from this so students make themselves a whole new set of notes. When he does examples in lectures that are not already in the handout he puts the worked solutions up on Moodle afterwards. When he does an example in lectures that is already in the handout he does not write it all out again, he just talks through it. People would find it helpful if he worked through each step. Some students find his examples are too much algebra based, i.e. too abstract, and they would appreciate more numerical examples. All the material this term is new to everyone, so there is no Maths/Further Maths divide. The pace is good and people are able to keep up. The lecturer speaks very clearly, but sometimes his writing is a bit small, although he does read out everything he is writing down which helps. The attendance is much the same as last term, and is maintained on Saturdays. The examples sheets are felt to be appropriate, and in general the students are happy with the course.

3. Part IA, B course: Mr Bartlett reported.

Lecture Course: Dr I. Borzým

Again the lecturing style in this course is different from last term's. Last term there was more space in the notes, this term everything is in the notes, and only occasionally are students required to write anything in. This means it is easy for students to catch up if they miss a lecture, but equally some feel they don't gain much extra by actually going to them. The level of assumed knowledge varies; the lecturer talked about solution spaces and vector spaces without introducing them, and when asked for clarification she started explaining about vectors at too basic a level. During her digressions she also assumed the students had studied Sets and Groups, and some students wondered whether she thought they were mathematics undergraduates rather than Natural Scientists. The students feel that she went over ODEs too slowly as everyone has seen them before. She is now covering partial derivatives, and the pace is about right.

The Lecturer is audible and legible, and has been engaging and enthusiastic. The attendance is stable, but there are quite a few latecomers who attract adverse comments from the her. She tries to encourage active participation by asking questions, but she tells the students to "put your hands up", and people are too intimidated to reply. She also asks people to say "if you don't understand it", but again people are reluctant to expose themselves. She is, however, felt to be approachable after lectures.

The examples sheets are thought to be well structured in general with a mixture of pure and applied questions. The students think there are too many very repetitive questions on differential equations, and ask whether they could be put in an “advanced skills” section, or an appendix.

The section on stationary points had used the Hessian Matrix, even though some students had not covered matrices in their Further Maths A level, and the student rep asked whether matrices could be covered before stationary points. Dr Thomas and Dr Lamacraft commented that they had been discussing exactly that point at the syllabus Committee meeting earlier. Next year’s Schedule for the Easter Term will be changed to include explicit mention of the Hessian Matrix, and the Lent Term lecturer should refer students to that. The rep also commented that the example on the harmonic oscillator had already been covered in physics, and asked whether they could go over it in less detail in the maths course, or possible use another example. The Syllabus Committee members commented that it was a very important example, and students probably gained understanding by going over it more than once in slightly different contexts.

4. Part IB course: Mr Gerlagh reported.

Lecture course: Dr C. Thomas.

The lecturer is quite good, and makes the course interesting as he doesn’t just read out his notes, but talks about the material. The notes have a lot of gaps, and students have to fill in most of the essential equations themselves. Some do not like this as it makes it hard for them to miss lectures. Some are using the lecture notes from two years ago which were more nearly complete. The rep suggested that the questionnaire results should be compared with those from previous years. The Convenor commented that the second week questionnaires were new this year, but that the results of the end of term questionnaires were compared year on year.

Some think the pace is too fast, and some think it is too slow. However, he does cover everything thoroughly, and does not gloss over anything. He does a lot of examples, all very simple, and some would like him to do more difficult examples. His handwriting is sometimes not that legible, in particular it is quite hard to distinguish his Fs from his fs. In the section on Calculus of Variations his notation sometimes caused confusion between functions and functionals. The examples class was quite good, but the lecturer tended to say “from here on in it is just algebra” when the students would have liked to see how to do the algebra efficiently, as this is also a skill. The attendance has dropped a bit, and the Babbage Lecture Theatre is now about a quarter full

The student rep asked whether there was a way for him to use the website to contact his class mates. The Committee advised him to contact Amy Dittrich in the Undergraduate Office who would be able to circulate messages for him.

He also commented that the MathComP course was outdated and too prescriptive, and that some parts of the manual were not clear. The Convenor, who runs the course, explained that the intention was to force students to have some experience of doing simple examples in numerical analysis, and they were not expected to take the material any further. She asked the rep to contact her directly with detailed comments on where the manual was unclear.

5. Any other business.

In response to the usual question about books, the student reps said that they did not need to use books, as the material was all in their lecture notes.

The Committee’s attention was drawn to the clash between the first IB Examples Class (2.15 Weds 10th Feb) and the introductory talk for IB students interested in taking Part II Astrophysics. This clash has happened for several years, despite it having been reported, and the Committee hopes that it can be avoided in future years.