

## COMMITTEE OF MANAGEMENT FOR THE NATURAL SCIENCES TRIPOS

Unconfirmed minutes of a meeting of the Committee of Management for the Natural Sciences Tripos held at 2:00 pm on **Tuesday 23<sup>rd</sup> November 2010** in the Greaves Room, Pathology, Tennis Court Road.

Present: Dr J Keeler (Chairman), Dr M Aitken, Professor T W Clyne, Professor R Horgan, Dr K Johnstone (representing Professor H Griffiths), Dr M Mason, Professor A Mycroft, Professor S Redfern, Professor D Ritchie, Dr S Russell, Dr C Schwiening, Professor J Secord, Dr Ian Wilson and Mrs E Oliver (Secretary).

Apologies: Mr N Donnelly, Dr P Duffett-Smith, Professor P Dupree, Mr F Floether, Dr R Padman.

### **564) MINUTES**

The minutes of the meeting held on 12th October 2010 were agreed.

### **565) MATTERS ARISING NOT ELSEWHERE ON THE AGENDA**

A summary sheet of action points and matters arising (**CM.658**) was circulated.

It was noted that there would be changes to the membership of the Committee before the next meeting. The Chairman expressed his thanks to the student members for their contribution and thanked the retiring members, Professor Clyne, Professor Dupree and Dr Mason, for their participation and welcomed Dr Aitken in place of Dr Holmes.

The details of the examinations for the M.A.St in Physics and Materials Science were reported and it was noted that the thresholds paralleled the Part III subjects.

Dr Russell reported that the topics, the of number of places available, and the number of places held over until Round 2, would be discussed at the Biological Sciences Committee (BSC) on 25<sup>th</sup> November. Places on BBS subjects were not formally limited and students seeking such places should not remain unplaced. Individual departments did however set overall limits and as figures released to Directors of Studies separated project places from BBS places it could be interpreted in some cases as a limit. Dr Russell would report the outcome of the BSC meeting to the next NST Management Committee.

The secretary had contacted certain Colleges informally regarding bringing forward the deadline for registration for IA practicals, and discussion had been constructive. The Committee was conscious that students needed time to consult with their Director of Studies and that it might require certain Colleges to change their current practice, but also noted that it was becoming increasingly difficult to place students into appropriate practical sessions; allowing the allocation algorithm to run for longer enabled a better fit, and this would be to everyone's advantage. The majority of students were registered by the earlier time and it was thought worthwhile to request that the deadline be brought forward by half a day.

**Action:** Secretary to contact Directors of Studies and the Senior Tutors Standing Committee on Education to put forward the recommendation that the deadline be brought forward.

Dr Russell reported that the topic of certain combinations at Part IB had been discussed. Only a small number of students were involved and they had been accommodated. This was a

known problem and solutions were available and Directors of Studies were informed. In addition some practical times had now been moved which would improve the situation.

#### **566) REPORTED AND STRAIGHTFORWARD**

A paper of reported business was circulated (**CM.659**).

- The Minutes of the meeting of the Biological Sciences Committee held on 7th October 2010 (**CM.660**) were noted.
- It was noted that the Geological Society had recently accredited the M.Sci with Part II and Part III in Geological Sciences for a period of six years from May 2010. Correspondence between the Department and the Geological Society was received. (**CM.661**)
- Caret were proceeding with their work on timetable modelling and CourseTools and hoped to report to the Committee in the Lent Term. Committee members with questions or potential initiatives in mind were asked to contact CARET.
- On behalf of the Committee, the Chair had approved a minor regulation change for Psychology Part II regarding discounting of marks which had been published in the Reporter of 3<sup>rd</sup> November 2010.
- On behalf of the Committee, the Chair approved a regulation change for Part IA Materials Science which was published in the Reporter of 10<sup>th</sup> November 2010. References to the Faculty Board of Earth Sciences and Geography and to the Head of the Department of Earth Sciences with respect to this subject have been removed and the regulations amended.
- On behalf of the Committee, the Chair had approved a request from the Department of Archaeology to include mention of the Natural Sciences Tripos in a Mellon post-doc bid. This would include development of a component to be offered to NST on the subject of Food and Drink in Historical Perspective. There was no commitment at this stage and further information would be provided to the Committee if the bid were successful.
- Form and Conduct Notices for all Parts of the Tripos were agreed and would be forwarded to the Reporter. An additional notice for Computer Science Part IA would be added if required. Regulation changes were also approved and would be forwarded to the Reporter and reported to the Education Committee of the General Board. (**CM.662**)  
**Action:** Secretary to forward Form and Conduct Notices and regulation changes to the University Draftsman for publication in the Reporter and report regulation changes to the Education Committee.
- A report on the choices of subjects in Part IA was received. (**CM.663**) Some combinations were discussed and it was noticed that the number taking Elementary Mathematics for Biology was very small at the start of the year although this usually increased during the year. In the future it may be worth revisiting whether A Level Mathematics should be a requirement especially in the light of development of the new Social Sciences Tripos.

#### **567) ANNUAL REPORT FOR 2009-10**

The Annual Report (**CM.664**) was received and approved for circulation to the Education Committee of the General Board and Faculty Boards subject to a minor amendment.

#### **568) TRIPOS EXAMINATIONS 2009-10**

##### **i. Part IA**

Dr Peter Duffett-Smith's report in his capacity as Chairman of Examiners in Part IA in 2009-10 (**CM.665**) was circulated. The reported gender imbalance and its relevance to other subjects and parts of the Tripos was discussed. Some further work had been carried out in Physical

Sciences but it would be interesting to see a summary for each paper. The Chairman proposed to study the figures for Chemistry and would report back. The topic was less important if it was not affecting the final outcome – it was also possible that other factors such as admissions criteria may be affecting the statistics.

**Action:** Dr Keeler to consider statistics relating to Chemistry and report back.

**Action:** Secretary to obtain gender data for each subject at Part IA.

Dr Duffett-Smith had asked the Committee to consider whether there should be consistency in the instructions provided to students with regard to writing on both sides of the paper. It was apparent that different Departments had different approaches as some used answer books and some used paper. Where calculations formed part of the answer it was preferable for only one side of the paper to be written on. It was suggested that where sheet paper was used it should only have lines on one side to avoid confusion.

**Action:** Dr Keeler to take to the Board of Examinations.

Following requests for additional information after the examinations it had become apparent that there was variability in the data retained. Departments also treated the requests differently.

It was suggested that the question level markbook should be kept for the same period as the scripts. There was reluctance to provide this information automatically as it was not always meaningful. It was thought that the current procedure should be continued but that Senior Examiners should be reminded to adhere to the instructions regarding disposal after the period allowed for appeals.

**Action:** Advice to Senior Examiners to be strengthened.

Dr Duffett-Smith had raised the issue of risk to the examination process by the reliance on complex spreadsheets to support the procedure. It was difficult to know how to resolve the problem and discussion took place on whether a new system should be developed and how it should be maintained; whether a Computer Officer should be employed; whether CARET could be involved. It was recognised that this was a critical issue and was not confined to the Natural Sciences Tripos. There were problems each year across the University as spreadsheets were being used for a function for which they were not designed. It would be worthwhile to spend effort to get a properly resourced system to address a key risk.

**Action:** Dr Keeler to discuss initially with Dr Padman with regard to the School of Physical Sciences.

A query was raised as to whether the subject level data was being fed back to Senior Examiners as one of the subjects had a particularly low percentage. Dr Duffett-Smith would be asked to address this point at the next meeting of the Committee.

## ii. **Parts IB, II, III**

Dr Christof Schwiening's report in his capacity as Chairman of Examiners in Parts IB, II and III in 2009-10 (**CM.666**) was circulated and discussed.

Following an incident in a IB examination where the Senior Examiner had difficulty getting a correction relayed to all locations in a timely manner Dr Schwiening had recommended that the Senior Examiner should be provided with a list of locations and contact details for each location where candidates were taking the examination, before he or she left the main

examination hall after the start of the examination. The Committee agreed with this recommendation.

**Action:** Secretary to write to the Board of Examinations.

The use of C to provide a cohort reference had been used for the first time in 2010 and the Committee was asked to consider how the process had worked and whether it should continue. Dr Schwiening provided an explanation of the origin of the C value, the effect if it were brought into use and the effect of it not being used. It was agreed that the use of C was an improvement on the previous method but was not without its limitations. Alternatives were suggested, such as the numbers in each class being left to the discretion of the Senior Examiner. It was recognised that whilst a single ranked list was in use it was difficult to avoid that someone may be disadvantaged. It was agreed that use of the C value should be tried for another couple of years and then reviewed. A backscaling formula would be included in the guidance to assist with scaling of component marks.

The value 'b' as described in the guidance needed further thought because of its effect on marks around 40%. Only a small number of subjects were affected but a method of resolving the possible issue was required. It was agreed that the sections for scaling should be more closely defined and the guidance would be modified accordingly.

The calculation of the value C also required attention as the description in the guidance did not entirely match what had been decided by the working group. The correct formula had been used in 2010 but the explanation would be improved for 2011.

Use of fixed boundaries was also discussed and it was agreed that these should remain as they are currently defined in Appendix 2.

It was recognised that a clearer process was needed for ensuring that the procedure for, and the amount of, extra time allowed in practical examinations was fully understood by candidates.

Clarification was also required on the definition of 'raw' marks and specifically whether any adjustments could be made before these marks were used in the scaling process. It was agreed that the guidance to Examiners on this point should be improved.

The definition of how marks should be rounded was also discussed. Dr Schwiening felt that the marks from subject senior examiners should be provided to full precision but displayed to one decimal point. This conflicted with the statement in the IA guidance which asked for the marks to be provided already rounded to one decimal place so that the totals displayed correctly. The checking function for the spreadsheet for IA operated on this basis. It was agreed that this needed further discussion between the two Chairmen of Examiners.

Requests for additional data had also arisen in Part IB during the summer and although the information had been provided, the method of requesting the data was not completely clear.

Dr Schwiening had also raised the issue of risk with regards to the final stages of the IB examination process. This was reliant on a single administrator working additional hours over several weeks resulting in a fragile process. The Chair agreed that the risks to the process had been noted and that a solution would be sought.

**Action:** Amendments to the draft Examiners Guidance would be made following discussion with the IA and IB Chairmen of Examiners.

### **iii. Statistics**

A paper showing classing of candidates in Parts IB, II and III of the Tripos compared with classes obtained in the previous year's examinations (**CM.667**) was noted.

### **iv. Reports of External Examiners for the Tripos**

The majority of the reports have now been received by the Secretary and distributed to the Departments for their comments; in general, External Examiners are happy with the overall process. A summary of comments and responses would be prepared for the next meeting.

The Chairman outlined a request from Dr Duffett-Smith to bring forward the date of the Final Senior Examiners meeting for IA by one day. There was concern that this could impact on marking times and there was no support for this to be moved.

### **569) NST EXAMINATION WEB PAGES (CM.668), GUIDES FOR SENIOR EXAMINERS FOR PART IA, (CM.669) PART IB (CM.670), PARTS II AND III (CM.671) AND ADMINISTRATION TIMETABLE (CM.672)**

The revised Guides were circulated and the Committee was asked to approve the web pages, Guides and Appendices.

The Chairman summarised the changes which were either based on modifications to the document produced by the Board of Examinations or were as a result of recommendations by the Chairmen of Examiners. The changes to the web pages, and guidance were agreed with the proviso that degree of precision of marks should be discussed offline with the two Chairmen. It was agreed that the Data Retention Policy should remain in its current form pending review by the University. The Secretary was thanked for her work on the guides.

### **570) NATIONAL STUDENT SURVEY 2010**

Data and anonymised student comments specific to Natural Science Tripos subjects were circulated (**CM.673**). The General Board's Education Committee had requested that the data be considered and a brief response provided. It was suggested that it may be appropriate to consider the following: are the data as expected? Are they consistent with other internal findings? Does the data highlight or reinforce any areas for concern and if so, does the Committee intend to investigate or address these issues?

Relevant information had been sent to individual departments and the Management Committee was asked to consider any Tripos-wide issues. The Committee were reminded that this was an exit survey which asked students to reflect over their entire period of study and was likely to reflect comparisons between the years. The overall response rate should not be overlooked. It was possible that some of the responses were a reflection of the sample of those who had responded and not perhaps wholly representative. The data included MVST students whose responses would be separate in the future. It was noted that there was overall satisfaction with the Tripos. There was a general view that the workload was high which was understood and was the nature of the Tripos. Comments that the examination process lacking transparency and that it was difficult to know what represented a good answer in an

examination, were considered. It was felt that this may be more problematic with essay based responses for which it was difficult to provide examples. Perhaps a better explanation of the information already provided was needed. Some subjects e.g. Pharmacology had provided additional help which had been reflected in improved results.

**Action:** the Biological Sciences Committee would consider whether similar approaches would benefit other subjects.

**Action:** Secretary to write to Part II and III Course Organisers to draw attention to answers to Question 5. 'the criteria used in marking have been made clear in advance' and enquire whether there were plans to address this topic.

#### **571) THE SUPERVISION SYSTEM**

A letter from the Senior Tutors' Committee on the future of the Supervision system was circulated (**CM.674**). This provided details of the work done over the past year by the Senior Tutors' Committee and its Standing Education Committee and included the data provided by the Management Committee for Part II and Part III. The Committee were asked if they had any comments. It was noted that NST supervised heavily, mainly in groups of 2-3 students and was not out of line with its cognate subjects. Numbers of supervisions in Parts IA and IB were necessarily high because of the range of subjects studied. The overall rise in numbers and hours of supervisions was discussed. It was felt that some of this increase might be due to increasing student numbers, the increased facility offered by CamCORS for logging supervisions, and additional supervisions for skills and essay writing. Providing Directors of Studies were not authorising more than the norms, it was felt that no further action was required at this stage.

#### **572) UNDERGRADUATE PROSPECTUS 2012 ENTRY**

A proof version is circulated (**CM.675**). The Committee approved it as presented and noted that further minor changes would be made to Part II and III entries to comply with space requirements.

#### **573) ANY OTHER BUSINESS**

It was reported that a recent letter from the Pro-Vice Chancellor Education to Colleges with regard to overseas undergraduate numbers may affect some Triposes more than others and could increase the overall number of NST students. It was felt that it was not clear whether the recommendations were intended to apply to overall numbers or those within each Tripos but it was agreed that it was important that the overall number of NST students should be kept at the present figure.

#### **574) DATE OF NEXT MEETING**

The next meeting shall take place at **2:00 pm** on Tuesday, 1st February 2011 in the Dixon Room, Pathology, Tennis Court Road.