

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 1st February 2011** in the Dixon Room, 1st Floor, Pathology, Tennis Court Road.

Present: Dr J Keeler (Chairman), Dr M Aitken, Dr P Duffett-Smith, Dr S Fulton, Dr N Hopwood (representing Professor J Secord), Professor R Horgan, Professor A Mycroft, Mr J Norris, Dr R Padman, Professor S Redfern, Professor D Ritchie, Dr S Russell, Dr N Rutter, Dr T Tiffert, Mr T Towers and Mrs E Oliver (Secretary).

Apologies: Professor H Griffiths, Dr C Schwiening, Dr Ian Wilson.

575) MEMBERSHIP

An updated list of members was circulated. **(CM.676)**

The Faculty Board of Biological Sciences had appointed Mr Thomas Towers, from Robinson College, as the biological sciences junior member for the Committee.

The Faculty Board of Physics and Chemistry had appointed Mr Jordan Norris, from Queen's College, as the physical sciences junior member for the Committee.

The Committee approved these appointments and welcomed the student members.

The following appointments had been agreed by the General Board and new and returning members were welcomed ;

Dr Noel Rutter (Materials Science & Metallurgy) - in place of Prof Bill Clyne
Dr Teresa Tiffert (Faculty Board of Biology) - in place of Dr Matt Mason
Dr Sandra Fulton (Faculty Board of Biology) - in place of Prof Paul Dupree
Dr Mike Aitken (Faculty Board of Biology) as a replacement for Dr Nick Holmes
Professor Simon Redfern (Earth Sciences) reappointment

576) MINUTES

The minutes of the meeting held on 23rd November 2010 were agreed.

577) MATTERS ARISING NOT ELSEWHERE ON THE AGENDA

A summary sheet of action points and matters arising **(CM.677)** was circulated.

578) REPORTED AND STRAIGHTFORWARD BUSINESS

A paper of reported business was circulated **(CM.678)**. It included:

- Minutes of the meeting of the Biological Sciences Committee held on 25th November 2010 **(CM.679)**. It was noted that the new course in Entrepreneurship, proposed as a minor subject in Part II BBS (minute 371.02), was examined entirely by coursework, some of which was based on a group project. Although the Course Organisers had not had any problems in the past, some concern was expressed about this method of assessment and the process would be carefully monitored. The new subject would require a change to regulations which were in preparation.

Action: Secretary to prepare regulation changes for next Management Committee meeting.

The total number of BBS students, as mentioned in minute 371.04.03, was discussed. It was felt that there may be other ways of gathering student preferences and that this could be further discussed. It had not been possible to incorporate some suggestions from the BSC Committee as modifications to CamSIS and to the process would be required. It was suggested that further work could be done on how the process may be improved.

Action: Secretary to meet with Dr Aitken to discuss further.

- Minutes of the meeting of the Physical Sciences Education Committee held on 26th October 2010 (**CM.680**) were noted.
- Information provided to students regarding the Part II allocation process (**CM.681**) was circulated. An additional page of data on the number of places offered by each Department and a list of departmental selection criteria were tabled. Information for criteria from three departments was still awaited and members were asked to report to the Secretary any errors on the document presented. The number of places available was considered and increases noted. These were welcomed but did not represent a significant increase overall. Although it had been difficult to obtain accurate figures expected for next year's Part II students it looked likely that the Part II allocations process this year would be as challenging as last year.

The documentation was discussed and it was noted that the students' information sheet was particularly complex without a clear sequence of events, and that some of the terminology used, particularly with regard to dissertations and BBS, might be better defined. A small amendment was agreed and it was recommended that the documentation be reviewed as part of the plans for the following year.

Action: Secretary to amend student leaflet.

- A paper was circulated (**CM.682**) which gave a summary of comments from reports received from External Examiners in 2009/10 for subjects in the Natural Sciences Tripos. There were no critical comments and no overarching issues that needed the Committee's attention; it was pleasing to note that External Examiners were in general satisfied. Departments had been asked to consider any issues mentioned.
- On behalf of the Committee, the Chair had approved a Form and Conduct notice withdrawing the use of calculators in Part IA Mathematics. The notice had been published in the Reporter of 26th January. This decision had previously been announced in the Board of Examinations Notice in July 2010. Students had been informed and documentation amended.

On behalf of the Committee, the Chair had approved an amendment to the Part III entry requirements for 2011-12 and 2012-13 for Biochemistry and Systems Biology. Biochemistry had removed the reference to a Part IB subject and Systems Biology had amended the IA and IB subject requirements to 55%. The Notices had been published in the Reporter of 26th January. The information on Part III subjects on the Natural Sciences website would be revised to include links to the Part III entry requirements published in the Reporter. A draft was circulated (**CM.683**).

Action: Secretary to amend NST website.

- A revised webpage to reflect the changes to Part II Physical Sciences was circulated (**CM.684**). This included the added requirement of a dissertation with effect from October 2011.
Action: Secretary to amend NST website.
- Following recommendations as a result of the internal Learning and Teaching review, the Department of History and Philosophy of Science proposed to reform some areas of Part

II teaching. The total number of papers would remain the same and numbers of lectures for each paper would be standardised. No changes to regulations were required. A paper was circulated for information (**CM.685**). The change was considered to be straightforward and the rationale and plans were noted.

- The first run of the Scientific Computing component linked to Part IA Mathematics had now been completed and it would be appropriate to collect feedback and for the Chairman to meet with the Course Management Committee to review progress, discuss assessment and consider any regulation changes that may be required. The Management Committee had been involved prior to the course's inception and it was important that the Committee kept a watching brief over the course, its content and delivery and the way in which it was included in Part IA. The Course Organisers for Part IA Mathematical Biology were looking at the present content of the course with a view to considering its inclusion in their subject in the future. Positive comments were received regarding the handbook that had been provided.

Action: Secretary to ask the Course Organisers if feedback has been obtained prior to further discussion.

579) LEARNING AND TEACHING REVIEW OF THE DEPARTMENT OF HPS

Following discussion of the report of the Learning and Teaching review of HPS, the General Board's Education Committee had requested that the Management Committee may wish to give further consideration to the classing system as used in Part IB. A paper was circulated (**CM.686**) which summarised the observations of the review panel and the comments from the Education Committee. The observations resulted from remarks by a Part IB External Examiner for HPS who had found it difficult to accept the classing requirements for Part IB as a whole. This topic had been discussed previously and it was accepted that it was difficult to understand for those not closely involved in the Natural Sciences Tripos. It was not seen as a problem from within HPS. Experimental Psychology who also had an External Examiner for Part IB explained the situation upfront to their Examiner and encouraged the IB External to discuss it with the Part II External; a statement also appeared in the Part IB guidance for NST examiners. HPS would not in fact have an External Examiner in Part IB in future years in common with most other NST Part IB subjects.

Action: Secretary to report discussion to the Education Section.

580) STUDENT PERFORMANCE IN NST IA – GENDER ANALYSIS

Following discussion of the Part IA Chairman of Examiners' report, further information was provided on student performance and gender. An extract from the analysis attached to the Part IA examination spreadsheet was provided (**CM.687**) together with a report prepared by Physics for a meeting of their Teaching Committee (**CM.688**) when application for Athena Swan status was being considered. There had been some concern that female candidates were not performing as well as male candidates in Part IA Physics (and Maths, and therefore overall) and that this may be a reflection on the way the subject was taught. The percentage of female candidates reduced overall in Physics in later years of the Tripos where the performance was more equal. Discussion took place as to whether female candidates may have an advantage at any stage of the admissions process or whether the data indicated that candidates moved to a subject at which they performed better, which was part of the ethos of the Natural Sciences. It was agreed that for the present the data did not present a problem but that a watch should be kept for future years when it would also be possible to compare historical data. Data available for the other physical science subjects was considered but not thought to be significant especially with only one year's data. It was also unclear as to whether

any perceived bias may be related to A level results or subjects taken at A level, such as Further Mathematics. It was not felt that a detailed investigation for each subject was necessary at this stage, although individual subjects could pursue the matter if they wished to; members were asked to bring any additional information on the subject to the attention of the Committee. The General Board's Education Committee was also looking at data on the same topic.

581) RETENTION OF EXAMINATION DATA

Following discussion of the reports from the Part IA and Part IB Chairmen of Examiners the question of the period of retention of electronic question-level data was raised by the Part IA Chairman. The Education Section will shortly be reviewing the consistency of advice provided on retention of scripts and marks, alongside the process for releasing marks to students querying results. This will require consultation with the Data Protection Officer and the Board of Examinations. The NST Management Committee was asked to provide comments to inform that discussion.

It was recognised that this was a complex issue that required further thought. Current guidelines recommended that any data, outside of that retained indefinitely in the markbook, should be deleted after one month. Scripts were often kept for 3-6 months and where comments and marks were written on the scripts it was necessary to transcribe these marks and comments if a request was made for further information. Some subjects felt it essential to write on scripts given the numbers of parts to each question and the numbers of candidates. There was no requirement to reveal the scripts themselves. It was apparent that there was variation in current practice; some Departments used cover sheets to note marks and comments, others annotated the scripts, most kept question level data until at least the end of one month after release of marks. Last year there had been several enquiries which had resulted in marks and comments having to be transcribed from scripts after the question-level data had been destroyed and it would be helpful if these two deadlines could be aligned. The Part IA Chairman suggested that, for this year, he would be prepared to keep question-level data for a period of 3 months so that any queries could be answered without recourse to the scripts. There was some concern that this method might not provide satisfactory answers to the questions raised and that perhaps there were more helpful ways of providing guidance, such as sample answers. It was suggested that for the future it would be sensible if question-level data were kept for the same length of period as scripts but that for this year - pending the work to be done by the Education Committee, the topic should be raised at the first Part IA Examiners meeting. If the Examiners were happy to provide the Chairman with the marks then they could proceed in that way for this year but any future Chair should not be bound by that decision.

Action: Part IA Chairman to raise topic at first Examiners' meeting.

582) ANY OTHER BUSINESS

A query was raised with regard to the pass mark for MAST subjects in the Natural Sciences. It was agreed that this was a complex issue which was also linked to the criteria for entry as well as the level descriptors. The pass marks had been agreed for this year and would be kept under review.

583) DATE OF NEXT MEETING

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