

## Oxford University Department of Materials Academic Committee

**DMAC 38 Minutes of the Academic Committee** held at 2.00 pm on Monday 20<sup>th</sup> November 2006 in the Wolfson Meeting Room.

**Present:** CRMG, KAQOR, DJHC, MRC, AJW, JMS, AOT (Chair).

**In attendance:** ICS (Secretary), KJD.

### 1. Apologies & Welcome

AOT welcomed MRC to the committee.

### 2. Minutes of DMAC 37 (DMAC 38/1)

The minutes of DMAC 37 were accepted.

### 3. Shortened Minutes

Consideration of confidential items to be removed from the minutes to be published on the Department of Materials website.

### 4. Matters Arising

#### \*From DMAC 24

*Minute 11 SENDA* – in progress.

#### \*From DMAC 27

#### *Minute 4 Report from JCCU Chair:*

**Practical Classes** Possibility of submitting reports in word-processed format. JMS has provided a lead on information on software for the detection of plagiarism. AOT is investigating its use and attended a half-day workshop on plagiarism in June 2006. AOT noted that EPSC has now produced some guidance on plagiarism.

**In progress: AOT**

#### \*From DMAC 30

*Minute 8i - Practical Review* AJW stated that he was not aware that construction of the end of term practical questionnaire had progressed, but confirmed that it was still desirable. AOT requested AJW to jot down some ideas from which ICS and AOT would draft a questionnaire.

**Action: AJW**

[Following discussion at DMAC 35 the questionnaire will also include a poll for a new prize to be awarded to the best Teaching Assistant.]

#### \*From DMAC 32

*Minute 11iv Report from the Faculty: Guidance to Supervisors* AOT and CRMG will adapt the guidance from the EPSC. Andrew Watt, as part of his CDF duties, will assist in taking this forward.

**Action: AOT/CRMG/AARW**

#### \*From DMAC 35

*Minute 7ii Materials Characterisation Module* CRMG and MRC will explore including a broader range of more advanced techniques. MRC will rework the module based on the extension of the number of techniques and will seek SGR's comments on these changes.

CRMG reported that some progress had been made, and that MRC and MG should be ready to report on changes made to the module at DMAC 38 [see minute 5 below].

**Minute 9 New DMAC Members** DJHC has offered to stand. No further nominations were received therefore DJHC is elected to DMAC. One further candidate is being sought. MRC has been nominated and is awaiting election. MRC has now been elected to DMAC.

**\*From DMAC 37**

**Minute 4ii 2<sup>nd</sup> Year Polymers** JCCU reported that past exam questions do not reflect the lecture notes for 2<sup>nd</sup> year Polymer courses, in particular Mechanical Properties of Polymers, and that current 3<sup>rd</sup> year students intended to avoid questions on this material. AJW reported that the question on viscoelasticity on Paper 3 in 2006 had been popular and marks were not out of step with marks on questions on other courses, and thus did not reflect the concerns of the current 3<sup>rd</sup> year students. JMS noted that the course may have moved on and that past exam questions may not necessarily reflect the current course content. This will be investigated.

**In progress: AOT**

**Minute 8 Quantum & Statistical Mechanics Review (DMAC 37/3)** DMAC agreed to recommend to Faculty the lengthening of 1<sup>st</sup> year Quantum Mechanics by two lectures, and to move it to the second half of Hilary Term in the current academic year (as a special case) but only to lengthen the course in the current academic year if PRW, the current lecturer, is willing to rewrite the course at this stage. PRW will give the existing 4 hour 1<sup>st</sup> year Quantum Mechanics course in HT07. In 2007/08 the proposed 6 hour course will be adopted. Action completed (AOT).

**Minute 9 Maths Review (DMAC 37/4)** CMB noted that the Earth Scientists would like to see the recommendations before they are put in place. AOT said that this was standard procedure and he would be seeking approval from the Earth Sciences Faculty/ Academic Committee before seeking the approval of the Materials Faculty. The Earth Scientists have responded and discussions are ongoing.

**In progress: AOT**

**Minute 10iv External Examiners' Reports (DMAC 37/8)**

(a) Total Scaling.

AOT suggested that to facilitate continuity and consistency of examination procedures, Academic Administration should provide the incoming Chair of Examiners each year with a briefing during Michaelmas Term. He will explore this with the Chairman of Examiners and then Faculty. The incoming and outgoing Chairmen of Examiners have responded positively to this suggestion. A paper will be presented to Faculty in due course.

**In progress: AOT**

[Confidential item removed from the minutes to be published on the Department of Materials website.]

(b)-(e) Part II Matters

Several issues raised by Prof Derby regarding the MS thesis and its assessment are being addressed.

**In progress: AOT/ICS/SGR**

**Minute 12 Prelims Regulation Changes (DMAC 37/9)** AOT reported that the Pro-Vice-Chancellor (Education) has not accepted the regulation change for Prelims. [Confidential material removed from the minutes to be published on the Department of Materials website.]

DMAC approved the suggestion that we now put forward a new regulation change adopting the wording of the Engineering Science prelims as per paper DMAC 37/9

DJHC noted that if approved this regulation change implied that it will be necessary to provide feedback to tutors on crystallography classwork marks.

The Engineering Science wording on prelims coursework is no longer regarded by EPSC as acceptable. Discussions are underway at MPLSD to identify a proportionate response to the failure of coursework.

***Minute 15 Crystallography Teaching for Earth Scientists*** AOT reported that there had been difficulty in finding a room sufficiently large to teach all 50-60 Materials and Earth Sciences students. As a result, classes have been split between two rooms with the provision of additional Teaching Assistants and DJHC moving between rooms. AOT reminded DMAC that the Department does not receive payment from Earth Sciences via the apportionment process for Crystallography Teaching, and that Earth Sciences organise Maths collections only in return. AOT suggested that given the difficulty of organising teaching space for the classes, Materials continues to provide Crystallography lectures but Earth Sciences are asked to teach their own classes from the beginning of next academic year. AJW thought that this was a reasonable approach. DJHC noted that whilst he enjoys teaching both Materials and Earth Sciences students he saw no reason why Earth Sciences should not give their own classes. DMAC agreed that AOT should explore this with the Earth Sciences Faculty. The Earth Sciences Faculty have accepted this change. Action completed (AOT).

***Minute 16 E(M)EM Economics Course Changes (DMAC 37/12)*** DMAC agreed to recommend to the Standing Committee that despite the number of lectures being reduced, Microeconomics should be retained as a compulsory element of MEM provided that the current number of tutorials was retained, and that the examination paper should retain its value of 100 marks. The Economics Faculty have confirmed that the number of tutorials will remain the same and that the examination paper for MEM would contain additional questions and remain at 3 hours duration. The Economics Faculty are now consulting with other joint honours school departments on these proposed changes. Action completed (KAQOR/ICS/AOT).

## **5. Materials Characterisation Module (DMAC 38/2)**

AOT noted the statement on back-up instruments in the revised module description and asked if such back-ups were available. MRC responded that back-ups were not specifically available, but noted that the organisers were conscious that the issue needs to be addressed. DMAC noted that there were several optical microscopes available in the Department, an alternative SEM would be available following the restructuring of the EM facilities, there was XRD and AFM at Begbroke, and that there were nano-indenters in 21BR and at Begbroke.

MRC reminded DMAC that they had suggested incorporating a broader range of characterisation techniques. MRC reported that he and MLG felt that on running the module for the first time it would be appropriate to keep to a more restricted set of techniques based on the central site, but have compensated by making the sample sets more complicated.

KAQOR felt that it was important that on being given the sample sets students had to go through the thought process of deciding which techniques would be appropriate, rather than having techniques suggested to them. DMAC agreed. AJW noted that the suggested sample sets were skewed towards structural materials, and asked whether it might be possible to have further options for functional materials. MRC responded that it was very difficult to think of suitable functional material samples for the range of techniques incorporated in this first implementation of the module. CRMG enquired about the availability of samples. MRC replied that he will be looking into this although it was clear that some will need to be produced specially.

KAQOR re-raised the question of how the non-attendance of lectures associated with the module is dealt with (attendance at lectures cannot be made compulsory). It was agreed that compulsory attendance at lectures and guided practicals should be removed from the module description and replaced with advice that attendance is essential for obtaining good results, e.g. 'attendance at the technical briefing which takes the form of a lecture and guided practical is a requirement for the use of a given technique'.

AJW raised a concern of the potential for a clash in the use of metallographic specimen preparation between the module and undergraduate laboratory classes. MRC noted that only one of the suggested sample sets requires the use of specimen preparation equipment in the Teaching Laboratory

DMAC approved the revised scheme.

## 6. Examiners' Reports

### i. Prelims (DMAC 38/3)

No major issues were identified. The Moderators have requested that DMAC considers how to make Polymer Synthesis more attractive to students. AOT noted that DGB is giving the course for the final time this year and so there will be a new lecturer next year who could be given some guidance. JMS wondered if there was perhaps a problem with tutorial provision for polymers. However members of DMAC thought that HEA gives most polymer tutorials for colleges.

### ii. Arrangements for External Examining of MS Part II Theses

AOT reminded DMAC of Prof Derby's comments on the short time available for assessing a large number of Part II theses, and that Prof Derby had suggested that both external examiners should examine both Part I and Part II to ease the burden of assessing Part II theses and to provide coverage for the full breadth of Materials topics. AOT has discussed the matter with the Chairs of Part I and Part II Examiners (RIT and SGR respectively) who both thought that this was a sensible arrangement. DMAC agreed that this new arrangement for external examining should be taken forward.

## 7. Exam Conventions (DMAC 38/4)

AOT noted that he had hoped to have had a good first draft of the 2007 Exam Conventions for this meeting.

### i. Scaling

The Examiners have discussed the matters for consideration raised by AOT, and have responded with a suggested scheme for scaling:

- (1) Papers with a mean of less than 55% or more than 75% are adjusted to the 55/75% (whichever is nearer) by adding or subtracting marks.
- (2) For individual papers whose means are in the ranges 55-60% or 70-75% (including those scaled under 1 above), the questions and typical answers are compared in order to ascertain, with the help of the external examiners, whether the marks are a fair reflection of the performance of the candidates, measured against the class descriptors. If not the marks are adjusted by adding or subtracting.
- (3) The mean mark and mark distribution for all written papers taken together are considered, again with the help of the external examiners, and adjusted if necessary.

AOT suggested that under (1) "...are adjusted..." should read "...are normally adjusted..." to ensure that where there is a small cohort of excellent students the examiners should not be forced to reduce the marks of these students. DJHC raised whether it was appropriate to refer to

the External Examiner in point (3) given that his/her involvement is implicit. AOT felt that it was important that a total scaling should have, and be seen to have, the full endorsement of the External Examiner. AOT will draw up a specific wording in a formal set of exam conventions in liaison with RIT and SGR.

**Action: AOT**

## ii. Late Submission of Coursework

Chairs of Examiners have been asked by the Proctors to provide advance statements on penalties for late submission of work (both in cases of late submission with the permission of the Proctors and without permission) rather than to set a penalty when a late submission occurs. Penalties have been defined for individual practical class reports, but AJW noted that no penalty has been set for the submission of the lab book to the examiners. RIT (Chair of Part I Examiners) has asked DMAC for advice. In the minutes of the Examiners' meeting the examiners suggest that for the Part II thesis a penalty of 20% per hour beyond the submission deadline. DMAC felt that this would be regarded as too draconian, and that some sort of sliding scale might be more appropriate. AOT suggested that a similar penalty should be placed on the late submission of Part I lab books, Team Design Projects and Business plans. AOT will explore what penalty Chemistry has set for late submission of Part II theses, and will then advise RIT and SGR so that they can discuss the matter further with the Proctors.

**Action: AOT**

## iii. Supplementary Subjects/ Language Option

DMAC agreed that it was happy for a convention to be included to show how the mark for a supplementary subject/ language option should relate to the definitions of class boundaries and how it substitutes for the block of 20 marks associated with the business plan.

## iv. Degree Class Descriptors

AOT circulated a new draft divisional template for degree class descriptors. He noted that some departments had adopted the previous template and others had modified it. AOT suggested that Materials should adopt the new divisional template when it is formally published. DMAC agreed.

## v. Part II Examiners' responses to the External Part II Examiner's Report

*MS Part II page limit* It was agreed that a detailed discussion on the issue of a page limit for theses should be held over to a future DMAC meeting.

[Note added. ICS will look at the practices for Chemistry Part II and make a proposal.]

**Action: ICS**

*MS Part II Oral Presentation* SGR agreed with DMAC that the Oral Presentation should remain unexamined.

*MS Part II Project Management* It was agreed that the External Examiner's concerns that management of MS Part II projects was properly described for assessment should be met by ICS, as Part II Coordinator, providing guidance to students on making proper use of the fourth Project Management form which requires a free-text report.

**Action: ICS/SGR**

*MS Part II Supervisor's Reports* CRMG noted that, in contrast to Prof Derby's report, a previous external examiner had strongly guided the Examiners to remove consideration of the supervisor's reports from the Part II assessment. SGR has specifically requested that supervisors are asked how much help they gave the student. AOT noted that PRW has also asked for guidance on how much time the supervisor should spend advising the student on the

thesis. DMAC agreed that the supervisor's form should allow the supervisor to link the amount of help given to the student to the efficiency of a student, e.g. the student has received a greater amount of help because he has been efficient and well organised.

[Note added. Oxford supervisors of externally placed students will be requested to incorporate comments from the external supervisor.]

**Action: SGR/ICS/LJFJ**

**8. GP3 Macroplasticity & Mechanical Working Processes Course Content (DMAC 38/5)**

DMAC approved the modifications to the course content proposed by the new lecturer.

**9. MS1 Polymers & Composites Course Content (DMAC 38/6)**

AOT noted that the lecturer and CRMG had met and had agreed that there was too much material in the Polymers & Composites course. CRMG agreed that material on the mechanics of fibre reinforcement is given elsewhere and should be removed from the course, but felt that material on non-polymer composites should not be removed because it is not given elsewhere. AOT will ask a working group, comprising HEA and AJW or RIT, to discuss the course material and provide feedback to DMAC at its meeting in week 7 of HT i.e. well before the course is given in TT.

**Action: AOT**

**10. Report from the Tutors' Committee (JTC/KJD)**

There was no business to report.

**11. Report from the EMS Standing Committee (SGR/ICS)**

There was no business to report.

**12. Report from the E(M)EM Standing Committee (KAQOR)**

There was no business to report.

**13. Reports from Divisional Committees**

**i. Academic Committee (JMS)**

The following matters were discussed at DivAC:

- Preparation for institutional audit.
- Pro-active response to staff development.
- Promotion of good practice in handbooks.
- Low uptake of teaching staff on skills courses. Many new staff members in MPLS do not know who their mentors are.
- The Bologna accord. The accord will introduce a Europe-wide structure of 3 + 2 + 3 yrs for Bachelors + Masters + PhD to allow greater mobility of students within the continent. It has now been generally accepted that this structure will indeed be implemented, and AOT noted that there is currently no joined-up thinking in the UK to develop a response to the accord. The accord has consequences for Oxford (and other UK) four-year integrated Masters students that wish to carry out PhDs elsewhere in Europe, as they will not have fulfilled the 5 years of study to Masters level required by the accord. Oxford may be forced to completely restructure its current integrated Masters programmes.
- Response to failure of coursework. The proposed change in the regulation regarding Materials Prelims coursework failure, which was concluded to be disproportionate by EPSC,

has initiated a wider discussion of the response to failure of coursework within the university.

- Embedding graduate students. MPLS has proposed guidance of a minimum of 1 hour per fortnight of graduate-supervisor contact time averaged across the year.
- Royal Society University Research Fellows (and equivalent) will no longer be allowed to be the sole supervisor of graduate students. AOT argued strongly against this, but was overruled.
- Student numbers are being capped at the 2006/07 levels. Divisional UG student numbers are forecast to increase by 16% which is contrary to the view of the centre who wish us to reduce UG numbers to allow an increase in PG numbers.

#### **ii. Graduate Studies Advisory Panel (AOT)**

The following matters were discussed at DivGSAP:

- The Bologna accord (see minute 13i).
- Embedding graduate students (see also minute 13i). A divisional QAA template has been developed.
- Supervision by Royal Society URFs and equivalent (see minute 13i).
- Student numbers (see minute 13i)

#### **iii. Undergraduate Studies & Access Advisory Panel (AOT)**

The following matters were discussed at DivUSAAP:

- The Bologna accord (see minute 13i).
- It was proposed that the MPLS Division should market its courses collectively. It has been proposed that an Oxford Science Area is established as part of an extension to the University Museum to attract students to Oxford science. The estimated cost is £8M. An OUP initiative to develop an on-line A-Level teaching resource has been proposed.
- Student numbers (see minute 13i).

### **14. Chairman's Report (DMAC 37/13)**

#### **i. CETL in "Preparing for Academic Practice" – Update (DMAC 38/7)**

AOT reported that the CETL is now in the second year of its five year programme. It provides pump-priming funding for the provision of training in skills related to academic teaching, with recurrent funding from the Roberts skills funding. There have been successful workshops for maths class tutors and on tutorial teaching for graduate students.

#### **ii. Influence of Further Maths at A2 on Prelims and Part I Performance (DMAC 38/8)**

AOT reported that KJD had put together an analysis of the influence of Further Maths at A2 on student performance in Prelims and Part I. The general conclusion is that the perception that Further Maths is helpful for the undergraduate course is reasonably unfounded. There has been some influence on prelims through better performance in the Maths paper, but this does not appear to translate to performance at Part I. Tutors have noted this analysis with interest.

**iii. Other**

AOT briefed DMAC on several current issues not covered elsewhere on the agenda:

- The language centre has reiterated that the HT start date for 1<sup>st</sup> year language courses is not ideal from their point of view. DMAC agreed that the start date should continue to be in HT to give tutors an opportunity to assess students' progress in their first term.
- MLJ had reported that a number of tutorial scripts had been stolen from his pigeonhole during TT06.
- The recent Careers and Alumni Networking Evening had been successful despite only 16 students and postdocs attending. It is hoped that this will become an annual event.
- AOT reported that a good deal of help is now available to students who wish to take up voluntary summer placements. He provides a briefing at the beginning of HT. There are a number of exchange schemes (Tsinghua, UCSB and Colorado School of Mines) and mechanisms for internal placements are in place.
- Refurbishment of the 21BR lecture theatre is complete. It is hoped that some of the Roberts skills money can be spent on upgrading the AV facilities in other teaching rooms.
- The MPLS division have requested that departments introduce exit points at year 3 for all four year programmes. We currently have a year 3 exit point of unclassified BA honours for MS, but nothing in place for MEM. AOT noted that this is strictly a matter for the E(M)EM Standing Committee, but would like DMAC to provide the Standing Committee with a steer. DMAC considered that an unclassified BA honours would be an appropriate year 3 exit point for MEM, and AOT/KAQOR/ICS will put this suggestion to the Standing Committee when the issue appears on its agenda.

**Action: AOT/KAQOR/ICS**

- At the behest of the MPLS Division the department is currently engaged in determining the real cost of teaching undergraduates.
- There is a vacancy on the Department's Graduate Studies Panel. AOT noted that in addition to attending JCCG, the only standing item for the panel is the grading of applicants for Clarendon bursaries.
- A member of staff has requested that DMAC provide guidance on the amount of help supervisors provide Part II students in writing their theses. The general consensus of DMAC was that supervisors should provide as much guidance as they see fit.

**15. Any Other Business**

AOT noted that the current practice for drafting the response to the External Examiners' reports is inefficient and proposed that in future he and the incoming and outgoing Chairs of Examiners should draft the response and then submit the draft to DMAC for approval. DMAC agreed to this proposal.

**Date of the next meeting – 2 pm Monday 29<sup>th</sup> January 2007, Wolfson Meeting Room.**