

## Oxford University Department of Materials Academic Committee

**DMAC 37 Minutes of the Academic Committee** held at 2.00 pm on Monday 23<sup>rd</sup> October 2006 in the Wolfson Meeting Room.

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

**In attendance:** ICS (Secretary), KJD, Semjon Terehrov (outgoing JCCU Chair) (Items 1-4), Alex Zawadzki (incoming JCCU Chair) (Items 1-4), JaMS (Item 8), CMB (Item 9).

### 1. Apologies & Welcome

Apologies were received from KAJOR. AOT welcomed DJHC to the committee, and Alex Zawadzki as the incoming Chair of JCCU. DMAC thanked Semjon Terehrov for carrying out his term of office as Chair of JCCU.

### 2. Membership and Terms of Reference (DMAC 37/1)

One vacant post exists on DMAC. MRC has been nominated and is awaiting election. DMAC approved the Terms of Reference without amendment, other than minor 'housekeeping' changes.

### 3. Report from JCCG

AOT reported that some members of staff are still not giving sufficient feedback on assessed courses.

### 4. Report from JCCU (ST)

#### i. Quantum Mechanics

JCCU supported the proposal to rationalise the 1<sup>st</sup> and 2<sup>nd</sup> year Quantum Mechanics courses, about which they had been informed at their MT meeting.

#### ii. 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.

**Action: AOT/KJD**

### 5. Minutes of DMAC 36 (DMAC 37/2)

The minutes of DMAC 36 were accepted with one minor correction: Item 4 Matters Arising, from DMAC 35 Minute 7ii *Introduction to Modelling in Materials Science Module* should read *Characterisation of Materials Module*.

### 6. Shortened Minutes

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

## 7. 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 will attend a half-day workshop on plagiarism in June 2006.

**Action: 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/AW**

### \*From DMAC 35

*Minute 2 Report from the Chair of JCCG (SH)* SH reported that JCCG thought that it would be helpful to have access to electronic versions of Part II and DPhil theses. AOT further reported that the 2004/05 Part II external examiner had suggested in his report that it would be useful for external examiners to have access to previous theses, and suggested that an electronic format would facilitate this. It was agreed that in future years the Part II students should be required to hand in a pdf file of their thesis on CD-ROM as part of the sign-off procedure, and that the Part II Organiser should include an instruction to this effect in the Part II handbook and at the induction course. Action completed (ICS)

*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.

**Action: MRC/MG**

*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.

*Minute 11 Report from the EMS Standing Committee* AOT reported that, as a general timetabling issue, there is now restlessness among students concerning ad hoc timetable changes after publication of the Lecture List. CRMG agreed and stated that such timetable changes

indicate a lack of commitment to the core function of teaching. AOT and CRMG will consider the issue further. Action completed (AOT/CRMG/KJD)

[In email circulation of the draft MT06 lecture list the following statement was included: “Academic Committee has become concerned about the number of last-minute changes to lecture times, as this is something that students have complained about. If you do have unavoidable commitments that mean you need to make changes, please let me know as soon as possible, so I can update the timetable before it is given to students.”]

**\*From DMAC 36**

**Minute 5 Renaming Functional & Structural Nanomaterials I & II (DMAC 36/1)** AOT introduced the proposed name changes. It was agreed that Functional & Structural Nanomaterials I should be renamed Fabrication & Applications of Nanomaterials as proposed, and that Functional & Structural Nanomaterials II should be renamed Physics of Nanomaterials in preference to the proposed Physics & Applications of Nanomaterials. AJW questioned whether it was appropriate that there should continue to be a combined reading list for the two courses. The lecturers concerned (PJD, VMB, CN) will be asked to update the reading lists. Action completed (ICS)

**Minute 6 Report from E(M)EM Standing Committee (KAQOR)** KAQOR reminded DMAC that she had reported to Faculty in TT06 that there were difficulties associated with placing students to external Part II management projects. She reported that the current position was that there were still two MEM students without placements. Both students have been put in contact with ten companies, and both had refused to travel to an interview at which only those two were being interviewed. One of the two students is awaiting a telephone interview, and the other has nothing left in the pipe-line. Steve New has three internal management projects available at the Said Business School, so it is hopeful that all MEM students will get management projects. KAQOR will inform the tutors of the two students. Action completed (KAQOR)

**Minute 7ii Vacancy on Divisional Board** AOT reported that there was still a vacancy on the Divisional Board due to the retirement of DJHC. The Department was still able to nominate a member of the Board. CRMG reported that PSG had agreed to stand and so will be nominated. Action completed (CRMG)

**Minute 7iii Voluntary French Language Course** Both French and German voluntary language courses have been offered to current Part II students and at least one place has been taken up. Action completed (AOT/ICS/KJD)

[KJD is acting as coordinator.]

**Minute 7v Teaching Excellence Awards** Awards were made to MLJ, MRC, CRMG and Susie Speller.

## 8. Quantum & Statistical Mechanics Review (DMAC 37/3)

AOT noted that the review panel had made a link between the 1<sup>st</sup> year and 2<sup>nd</sup> year courses, but that the 1<sup>st</sup> year course was currently rather stand-alone. JaMS agreed and noted that the 1<sup>st</sup> year course did not altogether prepare the students for the analytical approach of the 2<sup>nd</sup> year course. JaMS circulated a suggested scheme for a six lecture 1<sup>st</sup> year course to replace the current four lecture course:

- Lecture 1 Failure of the classical world view.
- Lecture 2 Wave particle duality and the Bohr atom, with worked explanation of photoelectric effect and Compton scattering.
- Lecture 3 Mathematical description of travelling waves, including interference effects and diffraction.
- Lecture 4 Wave packets and Heisenberg’s uncertainty principle.

Lecture 5 Standing waves in a 1D box, mentioning Schrodinger's equation.

Lecture 6 Tunnelling; bonding/ antibonding in a double well potential.

AOT thought that a good case had been made for extending the course length. DJHC noted that there would be some overlap of lecture 3 with 1<sup>st</sup> year Crystallography lectures (HT part of course).

JaMS explained that the review panel would like to see the first year course and/or other 1<sup>st</sup> year physics based courses (Electrical & Magnetic Properties, and Kinetic Theory of Gases) moved to either Michaelmas or Hilary Term. DMAC noted that the 1<sup>st</sup> year Maths course could not be rearranged to teach integration and complex numbers earlier than Hilary Term. AOT noted that Electrical & Magnetic Properties also requires knowledge of integration and complex numbers, and that Kinetic Theory of Gases was already in Hilary Term because it required Maths taught in Michaelmas and Hilary Terms. AJW and CRMG agreed with the review panel that questions on lectures taught in Trinity Term are not popular in Prelims, largely because there is insufficient time for the material to be assimilated. AOT commented that something had to be taught in Trinity Term as it was not feasible to compress all of the Trinity Term lectures into Michaelmas Term and Trinity Term. CRMG felt strongly that if it was possible to move 1<sup>st</sup> year Quantum Mechanics to Hilary Term then it should be moved.

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.

**Action: AOT**

## 9. Maths Review (DMAC 37/4)

AOT reminded DMAC that the review initially came about because of concerns raised by JCCU last academic year but that those concerns had subsequently settled down. The review panel recommended only minor amendments to the Maths courses.

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.

**Action: AOT**

CMB noted, in addition to the outcome of the review, that Nicole Grobert and Marina Galano have been finding it difficult to cover properly all of the material from Adrian Sutton's old lectures. AOT asked DMAC to consider giving him permission to take Chair's action in due course to add two hours to the 1<sup>st</sup> year Maths course. DMAC agreed to look again at a later date at whether it is necessary to add extra lectures.

**Action: DMAC**

## 10. Examiners' Reports

### i. Prelims (DMAC 37/5)

Carried over to DMAC 38.

### ii. Part I and Part II MS (DMAC 37/6)

No major issues were raised.

### iii. Part I and Part II MEM (DMAC 37/7)

No major issues were raised.

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

AOT reported that the external Part I Examiner's (Prof Greer) report had not yet been received. The external Part II Examiner (Prof Derby) had raised a number of issues:

**(a) Total Scaling.**

Prof Derby had understood that it was the current practice of the examiners to rescale the total mark at Part I to a target average mark [*Modified to remove confidential material from the minutes to be published on the Department of Materials website*]. The exam conventions for MS and MEM, although not explicitly ruling out such practice, state that it is "not normal practice to adjust marks to fit any particular distribution". The official stance of the University is that exam conventions are the responsibility of the relevant academic committee. AOT felt that scaling of marks in any single year, but not necessarily to the same level each year and not to a pre-determined average, was defensible if it was the academic judgement of the examiners. CRMG suggested that the annual letter from the Chairman of Examiners to question setters should give some guidance on an aspiration for setting the level of the question, but that the question setters and examiners should have no predetermined target for an average mark.

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.

**Action: AOT**

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

**(b) Length of Part II Theses**

Prof Derby felt that the word limit for Part II theses was reasonable, but that the relative ease by which micrographs and diagrams could now be produced had led to their extensive use and that some theses were therefore excessively long. JMS reminded DMAC that the setting of the length of Part II theses had been related to the similar exercise for DPhil theses for which it had been felt that setting a word limit was correct but that students should not be restricted from presenting their experimental results. CRMG was content with the status quo. DJHC suggested that DMAC should look into setting a reasonable page limit in addition to the word limit. AOT agreed to explore this.

**Action: AOT**

**(c) Part II Talks**

Prof Derby recommended that Part II talks should be included in the formal assessment of Part II. DMAC agreed that the Part II talks had been excluded from the formal assessment for good reasons and that they should continue to be excluded.

**(d) Part II Project Management**

Prof Derby noted that whilst examiners were asked to include project management as an aspect of the formal assessment he had “found it difficult to make a meaningful judgement on this from the information provided [project management forms]”. He recommended that a mechanism is introduced to formally assess project management. ICS noted that whilst project management is included in the guidelines for examiners there is no specific number of marks associated with this aspect, and that furthermore there are no marks associated with any particular aspects of the assessment. AOT and ICS agreed to look at how project management is incorporated in the paperwork for the Part II examination.

**Action: AOT/ICS**

**(e) Part II Supervisor’s Reports**

Prof Derby noted that the “Department of Materials does not require the project supervisor to provide a report on the student’s project unless there have been impediments that have impeded progress”, and that such a report would be useful. DMAC were reminded that supervisors are requested to complete such a report and that these are made available to the examiners, although it was felt amongst the committee that the examiners did not necessarily make use of them. DMAC agreed to recommend to the Part II Examiners that they do consider all supervisor’s reports in future. AOT and ICS will prepare a form of words.

**Action AOT/ICS**

**(f) MEM/MS Scaling**

Prof Derby was concerned that the practice of total scaling had resulted in inconsistent application of scaling between MS and MEM. DMAC concluded that Prof Derby had misinterpreted the scaling algorithm used.

**(g) Arrangements for External Examining of MS Part II Theses**

Carried over to DMAC 38

**11. Exam Conventions**

Carried over to DMAC 38.

**12. Prelims Regulation Changes (DMAC 37/9)**

AOT reported that the Pro-Vice-Chancellor (Education) has not accepted the regulation change for Prelims. Whilst sympathetic to the concerns regarding a small minority of lazy students the PVC was insistent that preventing a student from sitting exams based on failing coursework will always be regarded as disproportionate and that the external regulator would always agree.

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.

**13. GP3 Macroplasticity & Mechanical Working Processes Course Content (DMAC 37/10)**

Carried over to DMAC 38.

**14. MS1 Polymers & Composites Course Content (DMAC 37/11)**

Carried over to DMAC 38.

**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.

**Action: AOT**

**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.

**Action: KAQOR/ICS/AOT**

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

Carried over to DMAC 38.

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

Carried over to DMAC 38.

**19. Reports from Divisional Committees**

**i. Academic Committee (JMS)**

Carried over to DMAC 38.

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

Carried over to DMAC 38.

**21. Any Other Business**

There was no further business.

**Date of the next meeting – 2 pm Monday 20<sup>th</sup> November 2006, Wolfson Meeting Room.** The meeting closed at 5.48 pm.