

Science Studies Committee
05 December 2012
12.15
The Boardroom, 58 Prince's Gate
South Kensington Campus

Minutes

- Present:** Professor R Leatherbarrow (Chairman), Professor J Mestel, Mr D Hunt, Professor A MacKinnon, Dr E Price-Davies and Professor A Spivey.
- Apologies:** Professor S Curry, Professor D Humphris, Mr C Love, Professor R Thompson, Mr N Wheatley and Professor D Wright.
- In Attendance:** Ms L McConnell (Secretary), Dr M Tristem (on behalf of Professor S Curry) and Ms L Pomfrett.

The Chairman welcomed Dr E Price-Davies to his first meeting of the Committee.

1 Apologies for Absence

- 1.1 Received: As noted above.

2 Minutes

- 2.1 Approved: Minutes of the previous meeting held on the 07 November 2012 (**Paper 1**) subject to a minor amendment (ref minute 10.8.5).

3 Matters Arising

- 3.1 Received and Noted: A list of actions from previous meetings of the Committee and progress made so far to address these (**Paper 2**).

Items for Consideration

4 Senate Summary Report

- 4.1 Received and Noted: The summary report of the meeting of the Senate held on the 31 October 2012 (**Paper 3**).

5 Quality Assurance Advisory Committee Summary Report

- 5.1 Received: The summary report of the meeting of the Quality Assurance Advisory Committee meeting held on the 20 November 2012 (**Paper 4**).

- 5.2 Noted: To better reflect the revised remit of the Committee, it would henceforth be called the Quality Assurance and Enhancement Committee (QAEC).

- 5.3 Noted: The QAEC has approved the College's [Key Information Sets Policy and Procedures](#).

6 Undergraduate Annual Monitoring 2011-12

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- 6.1** Agreed: The undergraduate annual monitoring form from the Business School (**Paper 5**) would be considered at the next meeting of the Committee.
- 6.2** Received: The undergraduate annual monitoring form from the Department of Life Sciences: Biology (**Paper 6**).
- 6.2.1** Reported: No changes have been made to the 1st or 3rd years but changes have been made to the 2nd year following the re-structure of the Department last session. The 2nd year now has more timetabled tutorials and a new course in Behavioural Ecology. Genetics has been moved to the autumn term. The Department is introducing compulsory two-week mini research projects which will run towards the end of the 2nd year.
- 6.2.2** Reported: The 1st year pass marks are higher than in previous years which could be attributed to splitting the exams into two blocks, one after Christmas and one in the summer term.
- 6.2.3** Reported: The Department extensively reviewed its year weightings two years ago and is happy that the current year weightings are appropriate. No changes to these will be made.
- Reports of External Examiners
- 6.2.4** Reported: In response to comments made by external examiners regarding honours Project marking, the Director of Undergraduate Studies (DUGS) has convened a Working Group to revise the procedures for the assessment of projects, including the marking criteria. Any changes will be implemented for the 2013-14 cohort. The revised marking criteria will be sent to final year students and the Board Chairman will provide feedback to staff on how their marking compared to that of others in order to try to encourage consistency of marking between markers.
- 6.2.5** Agreed: The Department would provide the Committee with a report from the Working Group at the February meeting.
- 6.2.6** Reported: External examiners reported that some students were unhappy with the feedback they received on their examinations and coursework. To this the Department responded that they are working to improve feedback to students and are in the process of modifying feedback forms to take account of student suggestions.
- 6.2.7** Noted: The Committee was reminded that the RCSU annual report (2011-12) stated that students were unhappy with the quality of feedback provided to them on their examination performance and that the Committee had asked the QAAC to re-visit the College's policy on this.
- 6.2.8** Agreed: As a reminder, the Secretary would email members an extract of the minutes of QAAC where this was discussed.
- 6.2.9** Reported: External examiners also reported that students were unhappy with inconsistencies in the timing of when students were allowed to start their practical project work. Following the advice of external examiners, the Department confirmed that they will strengthen guidelines to staff and students to clarify the rules about practical work being carried out during the Easter vacation and the time available to complete projects.
- 6.2.10** Reported: One external examiner expressed concern that students may be over assessed, in particular in year one. The Department reported that they have since revised the assessment structure for these particular examinations and replaced the short answer questions with a section on data handling and data interpretation.
- 6.2.11** Reported: In response to concerns raised by one external examiner that some markers do not use the full range of marks and that it was unclear how to grade some questions which have a mix of features, the Department confirmed that the Board Chairman has conducted a statistical analysis of coursework and examination marking to indicate which modules had atypical marks. The results of this analysis will be circulated to course convenors and, in the future, this analysis will be carried out annually. Markers will also be reminded that the very highest marks should only be awarded when students have met

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all conditions for those marks.

- 6.2.12** Reported: External examiners also reported that students would welcome more careers guidance at an earlier stage which the Department confirmed will now be provided. One external examiner also reported an issue with some project students not being made to feel welcome at other institutions. The Department responded by confirming that they have reminded those students concerned that they should contact their Imperial supervisor should problems arise with external supervisors.
- 6.2.13** Reported: One external examiner commented that students who undertook the Science Communication course had reported that it was useful and relevant. Another external examiner was pleased that more Biochemistry/Biotechnology options were available to Biology students. The Department was also praised for their use of model answers to questions.
- 6.2.14** Agreed: The Department and the Committee thanked the external examiners for their contribution during 2011-12.
- 6.3** Received: The undergraduate annual monitoring report from the Department of Life Sciences: Biochemistry/Biotechnology (**Paper 7**).
- 6.3.1** Reported: The Director of Undergraduate Studies (DUGS) now ensures that SOLE feedback is distributed to course convenors and that it is used for reviewing the performance of lecturers. Following the re-structure last session, it was reported that the new final year curriculum has now been introduced. Changes to the curriculum include a reduction in the number of courses from 4 to 3, an extension of the final year laboratory project from 6 to 10 weeks and the introduction of a 4 week science communication course for those students opting to take the 6 week literature project rather than the 10 week laboratory project.
- 6.3.2** Reported: The Department is satisfied that year weightings remain appropriate. No further changes are planned. Additionally, the Department have introduced the use of blogs as a more informal way to communicate with students.
- 6.3.3** Reported: This year the DUGS will ensure that all course convenors provide an analysis of SOLE results to students.
- Reports of External Examiners
- 6.3.4** Reported: The Department confirmed that the schedule for preparation of examination papers will now sent to teaching staff prior to the start of the academic session to give staff timely warning of the deadlines that they need to adhere to and to avoid external examiners not receiving draft examination scripts in good time.
- 6.3.5** Reported: Some external examiners commented that not all scripts were marked in such a way as to enable the external examiners to see the reasons for awarding marks. In response to this, the Department confirmed that they will now instruct some markers to increase the amount of information they provide to justify marks awarded. In response to particular concerns with the assessment of components of project work, the Department reported that the plan for assessing project work is currently under review and that a revised criteria for the assessment of laboratory performance, presentations and vivas is being developed.
- 6.3.6** Reported: In response to comments about the content (core and option modules) of the Biochemistry/Biotechnology degree programmes, the Department confirmed that the first two years covers material suggested by the Biochemical Society. Regarding the final year, the Department reported that given the majority of students go on to careers in research, that they would prefer to provide as much option choice as possible so that students can pursue their chosen specialist areas.
- 6.3.7** Reported: One external examiner commented that he did not receive examples of scripts across the range nor second year scripts. The Department apologised for this and confirmed that these will be provided from now on.

- 6.3.8** Reported: External examiners were particularly pleased that the Department now provides model answers to examination questions and commended the Department for the innovative projects available to students.
- 6.3.9** Agreed: The Department and the Committee thanked the external examiners for their contribution during 2011-12.
- 6.4** Received: The undergraduate annual monitoring report from the Department of Mathematics (**Paper 8**).
- 6.4.1** Reported: The Department has replaced the enhanced coursework system for 4th year MSci students with a new "Mastery examination" and has introduced extra tutorials for those students who perform badly at the January examinations. These tutorials are led by 4th year students and have been well received by all.
- 6.4.2** Reported: The Department used GTAs as second markers for exams which has proven to be a great success. The consistency of marking is actively monitored by the Department and GTAs are provided with training. Marking by GTAs is no longer anonymous so that undergraduates can contact their markers for feedback and to provide GTA's with further teaching experience.
- 6.4.3** Reported: A new full-time Undergraduate Liaison Officer has now been appointed to administer and recommend changes to the undergraduate programmes and to act as a further layer of support to students.
- 6.4.4** Reported: Last session, there was a high proportion of failures in two 1st year courses. This was a deliberate policy not to be too lenient to those still lacking logical and manipulative skills. The Department found that in the past those students who narrowly pass their 1st year in June perform relative badly in the 2nd and higher years. Overall, the numbers of 1st class and upper second class honours degrees awards has increased this year. The new year weightings have made it easier for students who flourish in their final year to obtain higher classifications. The Department will continue to monitor progression rates to ensure that traditional standards are maintained. The year weightings remain appropriate.
- Reports of External Examiners
- 6.4.5** Reported: Some external examiners commented on the wide range of options available to students that may, as a consequence, enable some to select perceived less challenging modules and miss some core analysis material. To this the Department confirmed that they would prefer to keep the wide range of module choices and that compulsory analysis modules are undertaken in the first two years of the curriculum. One external examiner made specific comments that the Elementary Number Theory paper should be more challenging to which the Department confirmed that they have increased the difficulty of this paper for the 2012-13 cohort. Another external examiner cited the wide range of module options as an example of good practice.
- 6.4.6** Reported: In response to comments made by external examiners that the first year should not count towards the degree classification, the Department confirmed that they would prefer to keep the low 1st year weighting as it ensures that students are committed to their programme from the start.
- 6.4.7** Reported: There seemed to be a miscommunication between the Department and some external examiners last session concerning the availability of scripts. Some external examiners reported that they had not seen any scripts. However, the Department confirmed that projects and scripts totalling more than 10% of the assessment were made available to the external examiners when they visited the College. External examiners were invited in particular, to look at the borderline candidates. Extra scripts were also available upon request. The Department confirmed that they would ensure that external examiners were made aware that they can request additional scripts and that feedback on their comments on draft examination papers was available in the examination envelopes on the visiting day.
- 6.4.8** Reported: In response to the suggestion that the Department uses a more rational and

algorithmic system for the award of degree classes, the Department confirmed that they were happy with the current system but would review processes later on in the year.

6.4.9 Reported: One external examiner in particular found the uniform structure and very clear rubric of all the examination papers to be helpful and also commented that he found the standards of attainment by students at Imperial for pure mathematics to be outstandingly good. Positive comments were also made about the quality of independent project work by students.

6.4.10 Agreed: The Department and the Committee thanked the external examiners for their contribution during 2011-12, in particular for the very detailed comments made in their annual reports. The Committee was satisfied that the Department had responded in detail to all comments made.

7 Student Progression Data: Undergraduate Examination Failure Rates 2011-12

7.1 Received: The undergraduate examination failure rates for the 2011-12 session (**Paper 9**).

7.2 Noted: There were no Departments in the Faculty of Natural Sciences where the failure rate exceeded 10% for any particular year.

8 External Examiner Summary Report

8.1 Received: The undergraduate external examiner summary report for 2011-12 (**Paper 10**).

8.2 Reported: At its meeting on the 20 November 2012, the QAEC considered a summary of undergraduate external examiner reports for 2011-12. The QAEC was pleased that there were less College-wide themes that needed to be addressed this year and commended those Departments where external examiners had listed items of good practice.

8.3 Reported: The QAEC noted that external examiners in 4 Departments reported that scripts were poorly annotated. Reasons why marks were awarded and how they were agreed between markers was not always clear. These types of issues were raised by external examiners in 7 Departments in 2010-11 and were also raised, last year, by Master's external examiners. In response to this, the QAEC agreed to make an amendment to the external examiner report template to clarify that external examiners are asked to comment on whether double marking has taken place on the sample of scripts they have reviewed. The Committee also agreed that the Registry would send those Departments whose external examiners reported these issues a copy of the College's [protocol for double marking](#). The Registry would also develop a checklist for Departments to use prior to sending scripts to externals. The checklist would serve as a reminder to Departments to ensure that evidence of double marking is present and that where markers do not agree on marks initially, that an explanation of how the final mark was agreed is provided.

8.4 Reported: In response to comments from external examiners in 2 Departments who expressed concern with arrangements for the conversion of marks awarded to students from institutions abroad, the QAEC agreed that those Departments should be asked to look again at the methods used for translating marks to ensure that students who do not spend a year abroad are not disadvantaged.

8.5 Agreed: The methods used by the Department of Physics to translate marks from institutions abroad were appropriate and reasonable. The Committee noted that the Department regularly reviewed these processes to ensure that no students are disadvantaged.

8.6 Reported: External examiners in 3 Departments reported that they were not provided with marking schemes/criteria or model answers to questions. Other externals did receive model answers but recommended that there should be a standardised format for these. The clarity of model answers provided to external examiners and students and the provision of marking criteria to externals were both issues raised by external examiners in 7 Departments in 2010-11. Since these reports were submitted, the QAEC has

undertaken work to develop a policy on the provision of model answers to questions.

8.7 Noted: The QAEC is waiting to receive feedback on the revised policy from the Faculties.

8.8 Reported: External examiners should be provided with model answers to questions and marking criteria. Those Departments whose external examiners reported that they had not received these items would be reminded of this requirement.

9 Re-organisation of Undergraduate Courses

9.1 Received: A proposal from the Department of Mathematics to amend the MSci Mathematics with a Year in Europe programme (**Paper 11**).

9.2 Reported: Students returning from their year in Europe reported that the mathematics courses they missed during years 1 and 2 as a result of taking the language component of their course, has caused them problems later on during their studies. It is therefore proposed that students registered on the Year in Europe programme would be required to take all the mathematics modules undertaken by regular mathematics students during years 1 and 2. The language modules will instead be channelled through the College's extra ECTS scheme and any credit students receive as a result of language modules will not count towards their mathematics honours degree but will instead be listed on their transcript of results.

9.3 Agreed: The Committee was concerned with the amount of work that students would be required to complete but noted that the Department of Life Sciences operated a similar programme of study. The Committee noted that there was a high drop-out rate for students who took these programmes in the Department of Life Sciences. The Committee agreed that students should be made fully aware of the work load commitments for this course prior to embarking upon it.

9.4 Noted: The Departments of Chemistry and Physics have reduced the number of chemistry and physics modules which students registered on these programmes take so as not to overburden them.

9.5 Agreed: Changes to the MSci Mathematics with a Year in Europe course, as described above, to take effect for October 2013. Existing students on the programme will be given the choice of whether they would like to transfer onto the new scheme. The Department will monitor this course carefully.

10 External Examiner Appointment

10.1 Received and Approved: The appointment of Dr N Skinner (University of Exeter) to the education components of the BSc Physics and Science Education programme (**Paper 12**).

11 Approval and Review of New and Existing Exchange Partners

11.1 Received and approved: The renewal of an existing exchange partner for the Department of Life Sciences (Universita Degli Studi di Padova) (**Paper 13**).

11.2 Noted: The student exchange with the University of Lund (Life Sciences) will not be renewed.

12 Reports from Departmental Representatives

12.1 Received and Noted: A report from the Department of Physics of changes made to courses and exams, approved by the Department for 2012-13 (**Paper 14**).

12.2 Reported: The Head of the Centre for Co-Curricular Studies reported that the Horizons programme was recruiting well. Over 1500 students had enrolled onto the first set of autumn term courses.

Items for Report

13 **Dates of Next Meetings**

13.1 Confirmed: The dates of the meetings of the Science Studies Committee for the 2012-13 session:

- 13th February 2013 – 12.15pm – 2pm – Boardroom, 58PG
- 15th May 2013 – 12.15pm – 2pm – Boardroom, 58PG