

Engineering Studies Committee

Wednesday 14 November 2012
3.00pm
Solar Room, 170 Queen's Gate
South Kensington Campus

Minutes

Present: Professor O K Matar (Chairman), Dr L Craig, Mrs M Cunningham, Dr L Gardner, Dr A Horsfield, Professor D Humphris, Mr Doug Hunt, Dr P Leever, Mr C Love, Dr R Palacios Nieto, Mr L Paoli, Professor M Sloman, Dr M Tang, Professor A Walden, Mr N Wheatley, Professor D Wright.

Apologies: Dr A Field, Professor T Green Professor R Jardine, Dr E Price-Davies.

In attendance: Ms G Day, Dr K Fobelets, Mrs J Harlow (Secretary), Mr A Hawksworth (for item 7 only), Dr A Kogelbauer, Dr P McBrien, Ms R Penny, Mr D Surtees.

Agenda Item

1. Constitution and Terms of Reference

1.1 The Committee received the Constitution and Terms of Reference of the Committee for 2012-13. **[Paper A]**

1.2 It was reported that Professor Sloman will act as Deputy Chairman.

2. Minutes

2.1 The minutes of the meeting held on 23 May 2012 were confirmed.

3. Matters arising

3.1 There were no matters arising.

4. Chairman's Actions

4.1 It was noted that the Chairman approved a course proposal from the Imperial College Business School to establish a new module: Running a Commercial Operation, which will be available to students from the Department of Chemical Engineering. **[Paper B]**

4.2 It was noted that the Chairman approved minor changes in the Professional Engineering course in the Department of Electrical and Electronic Engineering, which involves substituting 10 lectures previously delivered by the Business School with a more industrially oriented component to inspire and motivate engineering instead of business studies.

5. Representation on Senate

5.1 It was reported that the Committee is currently represented on Senate by the Chairman: Professor O K Matar. Other members of the committee, Professor D Humphris, Professor D Wright and Mr D Hunt, are also members of Senate.

6. Annual Monitoring Statements

6.1 The Committee received the Annual Monitoring Statement for Aeronautics [**Paper C**]

6.1.1 The external examiners reports highlighted that there was one "outlying" module with low marks this year (Nanomaterials) but the number of students taking this module was small. The same can be said (but to a lesser extent) about Helicopter Dynamics. Looking back to the previous year the same seemed to be true.

6.1.2 In Response to the above, the Department commented that Helicopter Dynamics has historically low marks and that it was an optional module but they do acknowledge there is a need to bring marks more in line with those of other optional modules. They also advise caution in the interpretation of the statistics as this module is taken by very few students. The Department also noted that students often use past papers to prepare for exams and this has been identified as a source of uncertainty as past papers contain material written by students bound by time constraints in an exam. They will now ask lecturers to provide material and they will monitor the effect of this change during the coming years and will review alternative reasons for the lower average. Nanomaterials will no longer be offered as an option from 2012-13.

6.1.3 The external examiners highlighted that they were surprised that a student on the borderline was awarded a 1st although that student had marks of 13% and 18% in two of the final year modules.

6.1.4 The Department commented that the student identified above has their worst year in the modules for Nanomaterials and Helicopter Dynamics, but that their final average was 69.7% and is above the threshold for first class degrees in this year (set at 69.6% this time).

6.1.5 The external examiners observed that the marks achieved by students on the "410" programme tended to get significantly higher marks on their year abroad than they did in the adjacent years at Imperial College and suggested a review of this.

6.1.6 The Department noted that this has been historically the case and that they believe that mostly reflects the assessment criteria at the host universities, although they expect that students that are given the opportunity to study abroad are particularly motivated by that. Since they understand that students can be at a disadvantage when they return for year 4, they feel that this has been seen to compensate for that.

6.1.7 The external examiners noted that there may be no element of peer assessment in group design work. If this is the case, they felt this may be something that the Department might like to review.

6.1.8 The Department said that there has actually been peer assessment in place since 2010-2011. This is done through the WebPA online system. The Chairman also added that this is in place now.

6.2 The Committee received the Annual Monitoring Statement for Bioengineering [**Paper D**]

6.2.1 The external examiners reported that there are some admin issues (e.g.

papers not sent in time, not much time to review, feedback on draft question comments) and a large amount of and complex rules surrounding complex moderation procedures and cases of individual students for whom too much range of choice is given to the Final Exam Board as to their degree class.

6.2.2 The Department responded to the above observation by saying that will address the administrative issues related to timing and access to written work etc. They have also introduced new earlier marking deadlines so that marks should be ready earlier, and are inviting the External Examiners overnight to prepare for the Final Examination Board.

Finally, they are planning to change the regulations to allow students to pass Years 3 and 4 without necessarily passing each course separately. They hope that this should reduce the amount of moderation needed in these years.

6.2.3 External examiners commented that there is a lack of opportunities for internships, engagement with professional bodies/ learned societies, and the perception of barriers to engagement with clinicians for project placements.

6.2.4 The Department replied that they have just appointed an Industrial Liaison Manager who will develop links with Biomedical Engineering industry and look into the feasibility of developing a placement programme.

6.2.5 External examiners discussed that amount of moderation applied to the exam results, within questions, within papers, and between papers and did have some concerns as to whether too much moderation of marks was taking place. An associated but different concern was because of the requirement for students to pass all exams individually (though allowing one failure to be condoned) a student could effectively sit on a 2:1/fail borderline. They suggested that it might be helpful if the Department were to review the way in which such complex moderation strategies are applied and the apparent anomaly caused by the requirement to pass all subjects individually.

6.2.6 The Department replied that they are planning to change the regulations to allow students to pass Years 3 and 4 without necessarily passing each course separately. This should reduce the amount of moderation needed in these years.

6.2.7 External examiners commented that there are clearly some excellent GTAs, but there are clearly some who are very poor. They commented that they know that the Department is aware of the situation and looking at ways of addressing this.

6.2.8 The Department replied that they have appointed an academic GTA lead and a teaching fellow to work with the current team on improving GTAs' recruitment, training and monitoring to address this concern.

6.2.9 External examiners commented that following discussion with the faculty in the Department it was agreed that more time was needed prior to the Exam Board to allow the External and Internal examiners to discuss both the Moderation cases and Mitigation cases. This will be implemented for the 2013 Board and is to be welcomed. The Moderation process was the subject of much discussion both during meetings with the Course leadership team and during the Exam Board. They felt that this process needs to be applied in a slightly more consistent manner and possibly where marks in other Faculties are being adjusted (this year the Business school), greater consultation with those examiners would be appropriate.

6.2.10 The Department responded that they have introduced new earlier marking deadlines so that marks should be ready earlier, giving more time for discussion of moderations with other departments. They are also inviting the External Examiners

overnight to prepare for the Final Examination Board. Finally, they are planning to change the regulations to allow students to pass Years 3 and 4 without necessarily passing each course separately. They hope that this should reduce the amount of moderation needed in these years.

6.2.11 The Department reported that they have received excellent results from the latest NSS survey. The only relatively low scoring category was Organisation, where we achieved 88% satisfaction which they report is still a significant improvement over previous years (58% for 2010 and 67% for 2011) and are ranked 5th in the faculty. They report that their course organisation is greatly affected by the severe shortage of departmental space (especially lecturing space), which they are working to resolve.

6.3 The Committee received the Annual Monitoring Statement for Chemical Engineering and Chemical Technology **[Paper E]**

6.3.1 The Department reported that a Director of Course Operations has now been appointed and the UG office has been completely re-structured and located in a new, integrated suite of offices. All UG student service requests can now be handled in one place and now, if necessary, requests can be referred to senior staff more easily as they are in the same suite of offices. As a result of this re-structure, communication within the UG office has improved substantially.

6.3.2 The Department reported that the role of quality control for examination papers has been delegated to the year teaching panels which consist of all lecturers teaching in that particular UG year. This will ensure that examination papers are set fairly, at the right level of difficulty and that sufficient differentiation between high and low achievers is possible. Teaching panels have general rubrics available to judge the suitability of questions/marking criteria for individual examination papers.

6.3.4 External examiners had raised concern that there are a very small number of open book exams and students are not used to them so there needs to be more discussion with the students about the best way to tackle them in advance of the exam.

6.3.5 The Department commented on the above issue that they changed the format of the Industrial Chemistry paper from closed-book to open-book last year. Prior to doing this, however, the decision was discussed during staff-student committee meetings; following approval of this decision, all (second year) students were informed of the change in format with plenty of time to spare. It may be possible to introduce more open-book exams in future, and this will be considered as part of their on-going curriculum review

6.3.6 An external examiner commented that they pursued again with students about reading around the syllabus and again was told that this was not encouraged and that they didn't have time. They commented that there is evidence of wider reading for the research projects but that they would encourage making space in the course, and the incentives, to develop their knowledge and understanding beyond the lectures and set texts. They suggested that this could be done before enrolment as well as at various stages during the course.

6.3.7 The Department commented in response to this that students are encouraged to read around their subjects and that a number of courses provided extensive reading lists, research articles and multimedia material to provide a glimpse of the wider context. The Department reported that they are undertaking a curriculum review in which they are decreasing the level of overloading that students feel, as reported in the NSS comments. This will allow students the time to exploit these opportunities.

6.3.8 External examiners commented that the achievements of students across modules within the programme were rather variable. They encouraged the Department to implement a policy of reviewing (outside of the exam board meeting) any module that delivers an average not within the accepted range. They also commented that whilst model answers were provided for many individual papers, there were no marking schemes. A suggestion was made that it would be good practice to make marking schemes a requirement for exam papers and that it would also help to improve the variability of course unit averages if marking schemes were produced at the time of creating model answers.

6.3.9 The Department responded to the above by saying that they intend to implement the suggestions for this session. Academic staff are fully aware of the fact that scaling is applied as a last resort, and that their papers should be designed such that they are challenging but fair and well balanced. As mentioned above, quality-control over the papers will be exercised by the panels that will be chaired by the Year Chairmen; the inclusion of marking schemes will be mandatory this year.

6.3.10 External examiners commented that a disappointing feature of many of the papers was the poor quality of formatting and layout and an apparent absence of proof-reading. In a number of papers no definitions were given for symbols in equations, the assumption being that students are familiar with the equations.

6.3.11 The Department apologised with regard to the issues raised above that centre around the quality of the examination papers. The Department re-iterated the fact that they have set up panels that will be chaired by the Year Chairmen that will deal with all of these issues and promised that the improvement will be drastic.

6.3.12 External examiners commented that the Mastery concept and associated examination is in need of review. They felt that there was evidence that it is drifting away from its original objective, which was to test the candidate's broad understanding/grasp of the overarching principles and concepts of chemical engineering. It should be possible (and is desirable) for a candidate to sit a mastery exam without specific preparation. This year's assessment suggested that many candidates could not do this and so marks had to be scaled for at least two mastery papers. In order not to lose the value of this unique and innovative practice, they suggested that a review should be undertaken.

6.3.13 The Department replied that they agreed wholeheartedly with these comments and that they now have plans that will deal with the issues raised head-on.

6.3.14 External examiners expressed surprise at observing that candidates are considered in the exam board meetings non-anonymously. They were not aware of other universities still considering named individuals and suggested that perhaps it is time for the College to review its practices in this respect.

6.3.15 The Department said that they would like to retain the non-anonymous nature of the discussion of candidates at our Board of Examiners' meetings as it was not immediately clear to them what the added-value of anonymising discussions would be.

6.3.16 External examiners made some specific suggestions based on comments from students which were: to introduce a log-book requirement for the design project to better manage and assess the contribution of individuals within groups; to improve the structure of material placed on the blackboard learning environment; to level the playing field for the design mastery exam (some students appeared to know in advance what was coming up while others did not). Finally, an administrative suggestion would be that it would be good to be able to see a copy

of the final exam paper when reviewing scripts.

6.3.17 The Department responded regarding the specific suggestions made above as follows: The log book would be implemented this year; we have switched to the new version of Blackboard this year, and we will endeavour to improve the structure of the material placed on it as far as possible. The suggestion to see a copy of the final exam paper will be implemented this year.

6.4 The Committee received the Annual Monitoring Statement for Civil and Environmental Engineering [**Paper F**]

6.4.1 The Department reported that the major change made in the past year has been to introduce the Fourth Year of their new MEng curriculum, which is being rolled out progressively. They reported that of the four years of the new degree course, it is this year that has seen the most significant changes relative to the old course. In particular, taught courses are limited to the first term only, with examinations at the start of the spring term, and then the major individual project runs for the remainder of the year. A final event – the student conference, completes the year.

6.4.2 The Department reported that the failure rate in year 1 had been high for the past 3 years (>20%). Following an extensive process of scrutinising the causes for this high failure rate, and involving re-evaluation of their pass criteria, the failure rate for year 1 in this session is around 10%. Year 2 has a similar failure rate (around 12%), and they will be continuing to work towards minimising failure rates, but still maintaining their high standards in the future. In years 3 and 4, the failure rate is very low.

6.4.3 External examiners had commented that some answers to the questions relating to the marking of examination scripts could not be placed into any of the three categories of Yes, No or N/A. Some comments referred to the fact that the form has been significantly recast during the last year, but this comment has not been taken into account and that some questions do require a different answer.

6.4.4 The Chairman suggested that perhaps the text that external examiners see should be changed to read 'were all scripts in the sample double marked' in response to an open discussion that concluded that this was causing problems Faculty wide. Concerns were raised that such second marking issues should be addressed before a document becomes public via committees.

6.4.5 External examiners commented that they put a considerable effort into reviewing the exam papers in advance. Sometimes they question whether an exam question is well posed, or whether the answer is correct. They feel that they cannot tell whether any action was taken as a result of their comments and that it would be good practice that each examiner, for whom queries or suggestions were made, should write a short note for the external to indicate that the suggestion was accepted and implemented, or the suggestion was in error, and was not accepted, or that the suggestion will be implemented next year. Where the suggestions are judged to be in error, there should be some possibility to hold a short friendly discussion on the matter when the external is present for the exam board meeting. Most externals would treat such a meeting with appropriate gentleness and sympathy. External examiners are also only given the opportunity to comment on formal written exams, even though the total assessment of the student depends also on substantial amounts of coursework. Whilst they agreed that it is not feasible to ask the external to comment on coursework descriptions before they are presented to the students, they felt that it would be good practice to send all coursework descriptions to the externals, so that they can comment on whether they judge them to be appropriate; and they can see the relationship (if any) between the coursework and the exams that they review.

6.4.6 The Department responded by saying that the comments of the external examiners on examination papers are always acknowledged and acted upon as necessary, but feedback has only been provided when there have been major comments or there is lack of clarity in the comments. Regarding coursework, the Department felt that it seemed unduly detailed and overly burdensome to send coursework descriptions to examiners. Of course, the examiners see all coursework when they visit the Department and although there will be changes from year to year, this will provide them with a good overview of the volume and level of work undertaken.

6.4.7 External examiners commented that for the new degree that whilst much progress has been made to some undesired side-effects, the criteria have been subject to various modifications trying to strike a correct balance between the minimum requirement for individual modules and overall performance. They felt that there was still some more fine tuning to be done particularly in the criteria for the third year in which only the overall performance was considered for awarding a pass. They felt that some minimum requirement should be introduced for individual modules in order to prevent students largely giving up some subjects and that allowance should also be made for marks awarded in exams with an average significantly below the general standard, recognising the difficulty of setting papers of exactly the same level.

6.4.8 The Department replied that the pass criteria has been very carefully considered and reviewed for this academic year, which, coupled with other actions taken, have resulted in significant reductions in first year failure rates. The point about using average results in years 3 has been noted and will be kept under review, but the current pass criteria will be retained for the coming year to maintain a period of stability. Moderation has not been abandoned in the judgement of projects, however, the way in which the moderation was carried out has been altered, and this is currently under review.

6.4.9 External examiners commented that in general, model answers were comprehensive and of good quality. They noted however that some were excessively complete, so that no student could produce so much in the exam time. For exams where written answers are expected, they suggested that it would be good if the model answers were to indicate which parts are considered essential, which are simply desirable, and which are peripheral to the question.

6.4.10 The Department concluded that this was a useful comment and that it has been communicated to all staff.

6.4.11 External examiners commented that some aspects of the Exam Board process do appear, at times, to be somewhat unnecessarily harsh on students in later years who fail individual courses, possibly for reasons that cannot be accepted as true special circumstances but which nevertheless affect their performance.

6.4.12 The Department noted that this point was made previously and was central to their revised pass criteria in years 1 and 2 and, in particular, the reversion back to 2 SQTs in year 1 and 1 in year 2.

6.4.13 External examiners commented that when exam board rules are modified, such as the elimination of SQTs for third year, it is most desirable that the new rules are trialled on the previous year's results to see if the intended outcome is achieved. They felt that it was particularly difficult to ensure that all colleagues who are responsible for setting and marking exams do so with a full awareness of the consequences that their returned marks may have on student progression.

6.4.14 The Department commented that this was a valid point and that this process

was indeed carefully carried out, and submitted to the Committee as part of their revision to the pass criteria for this year.

6.4.15 External examiners commented that some comments were made during the Exam Board meeting in 2011 to the effect that the 3rd year had a bi-modal distribution of either ability, motivation or dedication, and that this was evidence that more of them should fail the year than had in the past. Since Civil and Environmental Engineering is a discipline that is very statistically aware, it would be very appropriate to have evidence of the overall mark distribution to determine whether such speculations are valid.

6.4.16 The Department commented that statistical information is made available during the exam board, but not to the detail suggested by the examiner. This information could however be obtained and provided to the exam board, and the Department will consider this suggestion.

6.5 The Committee received the Annual Monitoring Statement for Computing [**Paper G**]

6.5.1 External examiners reported that they noted this year that some examination papers had not been scrutinised internally to the same standard as previously, meaning that the copies which they saw had more minor typographical errors than previously. These errors were however corrected before they were presented to the students and thus had no significant detrimental effect.

6.5.2 The Department commented that it requires all examination question papers to be second-examined before presentation to the external examiners and that they shall remind examiners that all typographical errors must be eliminated before the papers are submitted.

6.5.3 External examiners commented that for a joint scheme (JMC), on years 3 and 4 students often have not taken enough Mathematics.

6.5.4 The Department responded that the approved regulation of the JMC degree allows students to choose a distribution of Maths and Computing courses but within a predefined boundary of a minimum number of exams in each of the two disciplines. There are therefore also cases of JMC students in third and fourth year who choose more Maths than Computing exams and students who maintain an even distribution of exams across the two disciplines.

6.5.5 External examiners suggested that the first year should not count. Good students with sub-optimal school education or who take more time to adjust at the university style will have disadvantages, students with a good school education but not living up to expected standards will have a not justifiable advantage. The first year at university should not count for the degree classification.

6.5.6 The Department commented that they are currently looking at the weighting of the first year and considering whether it should be reduced. They are aware that students feel overloaded in the first year and were looking to restructure it.

6.5.7 External examiners reported that they would like to see scripts and felt that one meeting was not well prepared and compared with the small number of students, it took far too long. They felt the reason was that different Departments use marks and averages differently and that due fact the scheme is not run as joint, but as a scheme, results are just added up and the weight of subjects are negotiated from case to case. They suggested an urgent need to improve on the administrative and formal side of JMC.

6.5.6 The Department commented that individual cases have always been discussed in great detail within the boundaries set by college regulations. The different philosophy of the two departments and the different marking scale adopted by the Maths department may give the impression that results are “just added up” but careful transformation of marks from one scale to the other is actually performed before final combined marks are produced. The Department will take necessary actions to make the process clearer to the external examiners prior to the examiners board meeting.

6.6 The Committee received the Annual Monitoring Statement for Earth Science and Engineering [**Paper H**]

6.6.1 External examiners commented that examination scripts are usually simply annotated with a series of marks, and without further commentary it can be hard to see the basis for which these marks were awarded.

6.6.2 The Department commented that staff are encouraged not to write on examination scripts, other than marks and to use their detailed marking schemes to award the appropriate marks. Second markers often meet with the first marker before completing the second marking to ensure that the standards are being upheld.

6.6.3 External examiners reported that although there are pro-forma marking sheets dividing the marks up into different categories (e.g. for Discussion, Presentation, etc.) some markers were clearly reluctant to use these and instead relied on an overall 'impression' mark. The examiner reported that they were told that awarding marks for several aspects of the dissertation was felt to lead to excessively high marks, and might be abandoned in future and that they felt this was wrong. They felt that there was in fact some evidence that dissertations may be marked too low near the top of the scale and too high near the bottom. They recommend that continued use of a marking scheme that awards marks for various categories; moreover, they suggest the Department considers use of a marking scheme in which the generic criteria for award of marks be clearly described in such categories, and are broken down into mark bands of 20% (i.e. generic criteria for a mark of 80-100%, 60-80%...0-20%, for Introduction/Background/Context, Data Collection, Discussion, Presentation, etc.)

6.6.4 The Department thanked the examiner for their comments and reported that academic debate is encouraged between staff on how best the marking should be done, although the decision on how marking is completed for the MSci projects is made by the Teaching Committee with the MSci coordinator. The MSci coordinator and his team of markers review all the marking and ensure that rigour is applied at all stages to the marking of the MSci projects, using clearly defined criteria. The criteria that are applied must be sufficiently generic to allow for a variety of projects that would be produced at fourth year level. Where the MSci coordinator considers that a staff member has not completed the process to his satisfaction for whatever reason, a third marker will be involved. A similar process exists for the third year independent projects. To ensure ongoing rigour in our examination and assessment process, for the academic year 2012-2013 we have already improved and amended the detailed marking schemes and the marking criteria for both the year 3 and the MSci projects. The aim of the detailed marking criteria is to encourage students to improve in subsequent work; the revised marking criteria were given to all students in early September before they completed the write up of their third year independent project. Detailed feedback to each student will show how they can improve in their fourth year MSci project, while still providing encouragement and support for the outstanding students.

6.7 The Committee received the Annual Monitoring Statement for Electrical and Electronic Engineering [**Paper I**]

6.7.1 External examiners commented that in some individual final year projects more emphasis should be focus on detailed descriptions of why the exact marks were awarded (e.g. for background, competence and achievement). This would be beneficial for moderation and the external examiners. They felt that in looking through the material from the earlier years of the degree programme (they assessed the Professional Engineering Undergraduate BEST Examination paper for 2011/2012) that this seemed very generic, and the impression they got was that material more focused on specific engineering issues would be preferable for the students and for future accreditation processes.

6.7.2 The Department concur with these comments and are happy to report that they have decide to make significant changes to the delivery and assessment of the part of this module provide by the business school. They will now provide material on broader aspects of an engineer's remit (ethical consideration, IP, personal development) delivered by our own staff and guest lecturers and assessed through essays.

6.7.3 External examiners commented that the department's procedures do not require that students' individual projects are demonstrated to the supervisor and they would suggest that such a step is recommended as good practice.

6.7.4 The Department acknowledged that this point had been raised before and that they found it difficult to deal with because of the disparate nature of the projects. For a design+make+test project, a demonstration test makes perfect sense. For a theoretical develop in an abstract area (a solution of a stabilisation problem), they commented that the nature and assessment of a demonstration were less clear to them. The changes envisaged to the marking process will make the different natures of different projects explicit and will allow them to expect evidence of a demonstration for those projects where it is appropriate.

6.7.5 One external examiner reported that he received no feedback on his draft questions.

6.7.6 The Department acknowledged this and assured him that all his comments were communicated to and considered by EIE exam setters, and their detailed responses were sent (along with comments on EEE exams), to the external examiners. However, it appears that due to an administrative error his email address was not included on the distribution list. The document containing the responses has been forwarded to him now, along with an apology.

6.7.7 External examiners noted that the marking scheme and the scheme for the award of honours/scheme for the award of pass, merit or distinction is fair and appropriate, and comparable to other institutions across the country. Their only reservation was with the use of the upper range of marks in dissertations – ie above >85%. They felt that the students taking the degree were amongst the most able in the country, and the best dissertations are easily of publishable quality and that this should be reflected in the range of marks awarded, where the best students can achieve >90%.

6.7.8 The Department agreed that they have some very able students capable of very impressive work and that they were happy to recognise this in marking. They do however feel the need to balance this comment against some mild criticism by external examiners in recent years over the number of first class degrees awarded and the need to avoided inflated project marks. The Department will be using a new marking scheme for projects where marks are selected from descriptions of the quality of the work and are then directed to appropriate marks. This will allow marks >90% to be achieved for exceptionally good work.

6.7.9 The Department reported that The Information Systems Engineering degree was

renamed Electronic and Information Engineering (with existing students given the choice of degree title). The Department also reported that some changes were made to the syllabus of second year modules for EEE as agreed by the committee. For the EIE degree a further course offered by DOC was included in place of Analogue Electronics 2 and a reduced syllabus in Control Engineering provided under the new name of Feedback Systems. First, third and fourth years remained essentially unchanged.

6.7.10 The Department reported that 2012-13 will see the introduction of a 6-month industrial placement option at the end of third year (with the group project remaining as an alternative). The award of honours scheme (module weightings, year weightings and ECTS) has changed substantially to accommodate this.

6.7.11 External examiners commented that there are some issues that crop up regularly at programme accreditation reviews by IET and that they would recommend that the Department do a small audit on where ethics are taught and examined within the programme and in preparation for the IET accreditation, prepare a mapping document to argue full compliance.

6.7.12 The Department reported that they have some lecture material on ethics in EE1-13 Professional Engineering and that they are making changes to this module to include more ethics and other topics (IP policy, data protection etc) and moving the business studies material to later years. They also reported that the EIE course director (Dr D Thomas) will conduct a mapping of the IET requirements.

6.8 The Committee received the Annual Monitoring Statement for Materials [**Paper J**]

6.8.1 External examiners commented that they believed that the Nuclear candidates should be given greater choice next year which they would appreciate as the Nuclear Thermal Hydraulics paper was problematic: one student expressed concern regarding the absence of mitigating actions taken by a lecturer from Chemical Engineering to accommodate the lack of pre-knowledge of fluid dynamics and heat transfer of Materials students on the Nuclear Hydraulics course. They believe that this was a concern felt by a number of students.

6.8.2 The Department commented that choice has been added to the Nuclear programme, but Nuclear Thermal Hydraulics will still be core. However, they added that they are working with the other Departments to ensure better exam questions are set. They are also sending additional instructions to the external examiners to check for proper balance in the questions; they felt that a key problem last year was the overemphasis on repeating mathematical proofs.

6.8.3 It was suggested by an external examiner that it was difficult for the Department to ensure that all work placements provided a stimulating and enriching experience for all of the candidates.

6.8.4 The Department replied to the above comment by saying that they are widening the range of projects they will allow students to participate in. They hope that this will make it easier for students to select projects that look interesting to them. They are also changing the assessment system so that it focuses more on what professional benefits the students believe they gained from the placement, rather than on reporting on activities they did. They feel that this levels the ground so that all placements can more easily deliver equal benefits to all students. They are also negotiating with a number of overseas universities to make more research placements available.

6.8.5 External examiners commented that one module 'Nuclear Thermal Hydraulics' was not of a similar standard to the others. Unfortunately this was set outside of the

Department but both the format of the questions and the layout of the exam differed from the others and made it more difficult for the students to show their capabilities. Important points relating to this were firstly that the exam had just two obligatory questions and no optional questions. The two questions tested the ability to deploy certain mathematical formula and provided no re-entry points for those students who could not do the early parts of a particular question. The questions really only tested one skill (the ability to deploy equations) rather than testing a range of skills – for example the recall of concepts, the synthesis of ideas and as a result did not distinguish successfully between the various levels of student attainment. The examiner felt that the questions were regarded (by the relevant examiners) as too difficult and subsequently some arbitrary adjustment of the marks was made to account for this but that they received no information about how this had been done or the reasons for it. Consequently it was difficult for us to assess the appropriateness of this correction. They also felt that these problems were compounded by issues with pre-requisites for the course and how these deficiencies were mitigated for the Materials students who had insufficient prior knowledge of fluid dynamics of heat transfer. Another point was that for some reason the draft Comprehensive paper was not sent to them for moderation. It was also not clear to the external examiner that the course Introduction to aerodynamics (A101 and 110) which comprises some courses set for first year aero engineering students is of a level appropriate to third year study.

6.8.6 The Department commented on the above by saying that the external examiners are now being directed to consider the form of the nuclear thermal hydraulics questions carefully. The comprehensive paper will also be sent to the external examiners this year. The Department reported that their third year students need some mechanism to gain background knowledge in aerodynamics. The aero first year courses seem a reasonable way to do this. They also added that they account for the lower level by treating the pair of courses as one.

6.8.7 External examiners commented that whilst the research project is felt by students to be a very enriching experience, in some cases the research projects had significant flaws of presentation and discussion and it would appear that simple lessons had not been learned from earlier activities. In addition it was felt that some of these had been marked rather uncritically. They recommended that this topic be considered in detail by the examinations team, taking into account that the marks awarded do not really distinguish the excellent sufficiently from the less good and that there was a tendency only to use the 15-20/20 end of the mark spectrum and felt that an over generous mark can mean that a student can get a certain grade which may not be appropriate to their ability and when all their written exams are below that grade. The examiner felt that this tendency to award high marks had also created a bit of a sense of complacency in the compilation of the final reports. The examiner also expressed concern at reference lists containing few archival references and felt that there was an over dependence on websites, and other transient sources. Many seemed unaware of how to cite articles in the text or the bibliography and they felt that these lessons should have been learnt at the literature review stage. The examiner also felt that in many cases students did not appear to understand what should be included in an abstract.

6.8.8 The Department commented that the Student Handbook includes clear instructions on how to write a report and that the literature review has a marking scheme that takes account of the key points mentioned above.

6.8.9 The examiners commented that last year a big step forward was made by providing some guidance as to what corresponds to a 100-90%, 90-80% mark etc but that they felt that more guidance was required. They suggested that this could be included on the respective mark sheets, or as supplementary guidance to markers.

6.8.10 The Department advised that the research project report now has a simplified

mark sheet that should make it easier to allocate marks more fairly. They also advised that the final report is marked by two people and the resulting two scores moderated. They reported that academics are encouraged to use the full range of marks and that they are considering asking the supervisors and assessors to consider different aspects of a project when marking (e.g. supervisors focus on the original contribution and effort of the students, while assessors concentrate on the quality of the report.)

6.8.11 The examiners expressed concern that this year only 2 of the 5 BEng students identified for Viva were available to attend, which they felt significantly affected their ability to assess the position of the grade boundaries and the overall quality of the cohort.

6.8.12 The Department replied that they will emphasise to students that they need to be on campus at the end of term in case they are required for vivas.

6.8.13 The examiners made some recommendations for the department consider for next year such as that the coursework assessment does not strongly discriminate between students with different final overall degrees. They felt that this could be achieved, for example, by including a more difficult task in some of the coursework. They also commented that the group project assessment included a joint report prepared in sections by different students and felt that this was a difficult thing to mark and likely to lead to students getting similar, high marks and that the format and marking could be simplified.

6.8.14 The Department commented that generally more uniform results from coursework may be due to the fact that we chase students to complete it, and they can discuss the work with each other. For one course where the marks were too high, a test was being introduced to help assign more representative marks. They also commented that for the group work reports, they will ask the students to identify more clearly what their individual contributions are.

6.8.15 The external examiners also suggested that the Department should consider returning some of the summative coursework back to the students to provide useful formative feedback, for example, the literature review where within this many students made errors in referencing and these errors went on to be repeated in the final year in the MEng final year projects. The examiners also felt that the course averages varied quite widely between papers, particularly in years 3 and 4 and recommended that the Department might consider ways to bring them closer together.

6.8.16 The Department responded to this by saying that they do plan to return as much work as possible to the students this year. They also commented that in order to help bring course averages closer together in years 3 and 4, they will complete a review of the structure of the exams in an attempt to make them more similar.

6.8.17 The Department reported that the room provided for third and fourth year students contains computers for writing reports and previously students had complained that they were rather old, and thus rather slow. ICT have now replaced them with new fast computers. The Department also reported that there was also a request for a printer, which has also now been provided.

6.8.18 The Department reported that there had been complaints about slow marking of lab reports so the markers have now been reminded of the deadlines. They also were concerned about inconsistencies in marking so there has now been a new, more standardised marking plan introduced for this year. To communicate decisions, a student representative now sends a list of the actions decided on to the DUGS to make sure there is agreement on what they are and then this is circulated to all students.

6.9 The Committee received the Annual Monitoring Statement for Mechanical Engineering [**Paper K**]

6.9.1 External examiners expressed concern that and commented that the larger number of failures in the second year was disappointing. They added that there were usually extenuating circumstances for candidates performing well below par.

6.9.2 The Department commented that all extenuating circumstances were considered by the Examiners' Meeting in the usual way, and accounted for as agreed. The Department admitted that it is also very disappointed indeed by the high second year failure rate and has reviewed it in some depth, with the participation of student representatives. They commented that no single factor emerges and that academic staff tend to attribute failures to a heavy coursework load towards the end of second term (and action has been taken to correct this) while students reported to blame demoralisation by the difficulty of the exams.

6.9.3 The external examiners commented that whilst the variety of projects offered to the students in the final year reflected well on the work they are likely to undertake in industry after graduating, it was disappointing that many of the projects had little or no experimental work.

6.9.4 The Department explained that this was due to the developments taking place in the laboratories and should be changed in subsequent years.

6.9.5 The Department reported that in response to the high ME2 failure rate this year, they have restructured the main Design project and adjusted the submission dates of coursework to avoid peaks. They reported that some examination issues arose not from any deficiency in procedures but from the failure to observe them, so all staff have been reminded of their duty to do so. The Department will also consider the student reps' suggestion of a Summer (post-exam) SOLE survey.

6.9.6 The Department reported that some key issues that were raised by the student body through the Staff-Student Committee(s) in the last year were firstly the general unfriendliness of the Departmental Student Services system for course management. Another issue was that complaints were made that computers were 'too few' and/or 'too slow'. The Department reported that as a result of these issues, the number of available computers had been significantly increased by expansion of existing facilities and access to others which are shared. The computers are standard-spec, but some course leaders asked too much of them (e.g. for rendering of complicated CAD models) and this was tackled by course management.

6.10 The Committee received the Annual Monitoring Statement for Imperial College Business School [**Paper L**]

6.10.1 External examiners asked why they were being 'drip fed' exams throughout the year. They commented that the exams looked pretty similar for the different courses and asked why the same exam could be used on the same day. They also expressed concern that one student who was away on university business at the time of the original exam was able to sit another exam.

6.10.2 The Department responded to the above by saying that the undergraduate BEST and undergraduate Joint Honours/BSc examinations are administered by two different Examination Officers (because of volume of work at peak periods) which may have contributed to the feel of being 'drip-fed' materials as packs would have been sent separately. We will look into coordinating this going forward. They also confirmed that it is not usual practice to set a different examination paper for a single student who is unable to make the published date and confirmed that this was an exceptional case and an extra paper was set at the request of the College.

6.10.3 The external examiners reported that they received a pack of exam scripts which did not have an examiner's report / comments attached to them and reminded the Department that it was good practice to send both at the same time. They also commented that it was good practice that all coursework is marked on every page and that the mark appears on the script, so that nothing is overlooked in the marking.

6.10.4 The Department apologised for omitting the examiners' comments with the samples and confirmed that this was an oversight; they also agreed that the examiners should mark every page with the final mark appearing on the front of the script as this was their policy. They assured the committee that they will be reviewing the scripts that were sent to see where this was not done and follow up with the lecturers concerned.

6.10.5 The external examiner reported that they felt that it was not at all clear what the coursework was testing. They felt that it was really pointless having coursework which consisted of some mathematical problems done by large groups of 6+ (e.g. Managerial Economics (Aero) – BS0831) as they felt that this skill was being tested much better by the exam, individually. Where there were essay questions in the coursework, the examiner was not clear what the point of a group piece of coursework was, apart from to save effort by the markers. The examiner felt that if there was to be group coursework, then the problem needs to be designed in such a way as to be capable of being divided up sensibly among a group. The examiner agreed that there should be coursework but suggested that it should involve individual pieces of essay based work. Further comments were made to report that the coursework the examiner read made disappointing use of references and data, they felt that a good take home piece of coursework should emphasise referencing and finding appropriate data.

6.10.6 The Department commented that the comments in relation to the quality of the group work assessment will be passed on to the relevant lecturers to be addressed in 2012/13. The Department expressed that they do feel, however, that group work is a valid form of assessment in a Business School and that they value the team work benefits that it brings. As the group work element is only weighted at 30% with the remaining 70% being for individual performance in examination, they do feel that the balance is appropriate. The Department concur with the point on references and data will be passed on to the lecturers concerned.

6.10.7 An external examiner was concerned that the questions on the exams were comparable, but the lack of individually assessed written work was a notable absence. They felt that clearly Imperial graduates can do economic maths, but felt that they can't necessarily write a proper sentence in English about economics.

6.10.8 The Department commented on this by saying that this was an interesting point that will be passed to the Economics Group for consideration.

6.10.9 The Department reported that there was some disagreement between the School and an external examiner on whether student results should have been scaled. The external examiner had felt that the results were too high but after a lengthy discussion at the internal examination board, the Board agreed that the results were in line with the performance of previous years and should remain unadjusted. The School values the examiner's feedback and continues to engage in dialogue on this subject.

6.11 The Committee received the Annual Monitoring Statement for Ancillary Mathematics (External Examiners Reports) **[Paper M]**

6.11.1 The external examiner reported that the learning outcomes had been achieved and that the programme is well balanced and coherent in relation to its stated learning

outcomes. They reported that the results achieved by candidates are impressive and that the standard of teaching was high.

7. Reorganisation of Undergraduate Courses and Examinations

7.1 The Committee considered and approved the renewal of the Department of Aeronautics exchange agreements with the following **[Paper N]**:

- (1) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (2) Institut Supérieur de L'Aéronautique et de L'Espace (SUPAERO), France
- (3) Institut Supérieur de L'Aéronautique et de L'Espace (ENSICA), France
- (4) École Centrale de Lyon, France
- (5) Universidad Politécnica de Madrid, Spain
- (6) Technische Universität München, Germany
- (7) Universidade do Porto, Portugal

7.1.1 The Committee noted that agreements with KU Leuven, RWTH Aachen, La Sapienza Rome, Politecnico di Torino, IST Lisbon and University of Padova will not be renewed.

7.2 The Committee considered and approved a proposal to amend the Scheme for the Award of Honours for the BEng and MEng courses in Bioengineering. **[Paper O]**

7.2.1 The Committee noted that The Department of Bioengineering has approved a series of small changes to its undergraduate programmes:

- (1) First year Mathematics teaching has been taken in house to make the subject more clearly related to Biomedical Engineering applications.
- (2) Changes to courses on physiological monitoring, imaging and data analysis.
- (3) To drop the Orthopaedic Biomechanics module for the 2012/2013 academic year.

7.2.2 The Committee considered and approved the renewal of the Department of Bioengineering exchange agreements with the following **[Paper P]**:

- (1) Eidgenössische Technische Hochschule Zurich, Switzerland
- (2) Grenoble Institute of Technology, France
- (3) Technische Universiteit Delft, Netherlands

7.3 The Committee considered and approved the renewal of the Department of Chemical Engineering exchange agreements with the following **[Paper Q]**:

- (1) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (2) Technische Universiteit Delft, Netherlands
- (3) Ecole Polytechnic Fédérale de Lausanne, Switzerland
- (4) University of Melbourne, Australia

7.4 The Committee considered and approved the renewal of the Department of Civil and Environmental Engineering exchange agreements with the following **[Paper R]**:

- (1) ETH Zurich, Switzerland
- (2) Institut National Polytechnique de Grenoble, France
- (3) Ecole Nationale des Ponts et Chaussées, France
- (4) Politecnico di Torino, Italy
- (5) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (6) Technische Universiteit Delft, Netherlands
- (7) Universidad Politécnica de Madrid, Spain
- (8) Hong Kong Polytechnic University, Hong Kong

(9) University of Melbourne, Australia

7.5 The Committee considered and approved the renewal of the Department of Computing exchange agreements with the following **[Paper S]**:

- (1) ETH Zurich, Switzerland
- (2) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (3) Institut National Polytechnique de Grenoble, France

7.5.1 The Committee noted that Year Abroad links with the Karlsruhe Institute of Technology and Paristech Telecomm will not be renewed.

7.6 The Committee considered and approved the renewal of a collaborative module partnership between the Department of Earth Science and Engineering and UCL **[Paper T]** and the draft agreement **[Paper U]**. Collaborative module partnerships are subject to renewal every five years by the relevant Studies Committee. Renewals will be reported to Senate. In order to facilitate this process, Departments are asked to complete the Renewal of a Collaborative Module Partnership Form. For information, a copy of the full *Procedure for Establishing Collaborative Modules* is available from: <https://workspace.imperial.ac.uk/registry/Public/Procedures%20and%20Regulations/Quality%20Assurance/Collaborative%20Provision/Procedure%20for%20Establishing%20Collaborative%20Modules.pdf>. A Formal written agreement will now be drafted.

7.6.1 The Committee considered and approved the renewal of the Department's exchange agreements with the Université Denis Diderot, France **[Paper V]**.

7.6.2 The Committee noted that following the approval of the Scheme for the Award of Honors in May 2012, the Department of Earth Science and Engineering wishes to report that it has changed a number of modules as follows **[Paper W]**:

- (1) Six new modules introduced into different years of the four year degrees.
- (2) Four modules have been renamed.
- (3) Eight modules have been reconfigured from existing modules.
- (4) Three modules have been withdrawn.

7.7 The Committee considered and approved the renewal of the Department of Electrical and Electronic Engineering exchange agreements with the following **[Paper X]**:

- (1) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (2) Technische Universiteit Delft, Netherlands
- (3) ETH Zurich, Switzerland

7.8 The Committee considered and approved the renewal of the Department of Materials exchange agreements with the following **[Paper Y]**:

- (1) Ecole Polytechnic Federale de Lausanne, Switzerland
- (2) Grenoble Institute of Technology, France
- (3) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany
- (4) Technische Universiteit Delft, Netherlands

7.9 The Committee considered and approved the renewal of the Department of Mechanical Engineering exchange agreements with the following **[Paper Z]**:

- (1) Ecole Centrale Lyon, France
- (2) ETH Zurich, Switzerland
- (3) Rheinisch-Westfälische Technische Hochschule (RWTH), Germany

- (4) Technische Universiteit Delft, Netherlands
- (5) University of Melbourne, Australia

7.10 The Committee considered and approved the renewal of the Faculty of Engineering Department exchange agreement with the University of California, United States [**Paper AA**].

8. Appointment of Examiners

8.1 The Committee considered the appointment of External Examiners for first degrees in 2012-13. [**Paper AB**].

9. Integrated Master's Degrees

9.1 The Committee noted that a new descriptor on MSci and MEng degree diplomas has been adopted as an interim measure to address some of the problems of recognition of integrated Master's degrees. [**Paper AC**].

10. Preparation of Model Answers to Examination Questions

10.1 The Committee considered a proposal from QAAC that departments should provide their students with model outline answers and illustrative examples, where appropriate, of how they might address examination questions. The Committee felt that this should be slightly adjusted to say "departments should provide their students with model outline answers *or* illustrative examples, where appropriate, of how they might address examination questions". This suggestion will be reported back to QAAC. [**Paper AD**].

11. Good Practice Highlighted During Periodic Reviews

11.1 The Committee received the annual report on good practice [**Paper AE**] highlighted by periodic reviews reported to Senate during 2011-12. The Committee agreed that the Department of Civil and Environmental Engineering's first year undergraduate autumn term personal tutor report form was an example of good practice.

12. Survey Results

12.1 The Committee noted and discussed the summer survey results for SOLE [**Paper AF**] and expressed concern that survey fatigue may be a contributing factor in declining participation. Professor D Wright explained that a new survey platform would help to address this.

12.2 The Committee discussed the results of the National Student Survey 2012.

12.2.1 The Department of Aeronautics reported that it has had a very large increase in student satisfaction across all categories, which is the result of many of the changes introduced during last year and, critically, of a much higher response rate (from 65% to 90%). Assessment and feedback is still the category with the lowest satisfaction (71%) and this will be addressed by several measures.

12.2.2 The Department of Bioengineering reported that it had received excellent results in the NSS survey. Most of their satisfaction scores are ranked among the top departments in the faculty (mostly 2nd place and with overall satisfaction of 93% at the 3rd place in the faculty). The only relatively low scoring category identified was Organisation, where they achieved 88% satisfaction which is still a significant improvement over previous years (58% for 2010 and 67% for 2011) and they are

ranked 5th in the faculty. Their course organisation is greatly affected by the severe shortage of departmental space (especially lecturing space), which they are working to address.

12.2.3 The Department of Chemical Engineering reported that there were three main areas of concern highlighted in NSS; academic support, personal development and overloading of students. With regard to student overloading, they are carrying out a curriculum review. Where possible (without significant disruption to the present courses) they have already taken measures to reduce student workload. Issues related to improvement in the level of academic support and personal development will be addressed among others through a major restructuring of their personal tutor system. The following targeted actions have been taken. Firstly the appointment of the Director of Course Operations. Secondly an increase in the number of personal tutorials in all UG years; tutorials in higher years on a one-on-one basis to move towards a mentoring system; general office hours by staff with background in relevant industrial sectors for career development consultations. Lastly, they have redesigned and restructured their UG office to provide a one-stop-shop service centre for UG students with direct access to senior staff as well as UG support.

12.2.4 The Department of Civil Engineering reported that they saw the biggest improvement in percentage satisfaction compared to 2011 for Assessment and Feedback and Academic Support (both +5%), and decreased in satisfaction in five categories. Civil Engineering also reported that they had a higher percentage satisfaction than the College total in two question categories. They have produced a Student Experience Action Plan (detailed in Paper F, Appendix V).

12.2.5 The Department of Computing reported that they are tightening up on their procedures for coursework marking and feedback. They also plan to hold an open meeting for all final-year students in December at which the Student Reps will raise the awareness of the NSS and its importance.

12.2.6 The Department of Earth Science reported that with a sample size of 52 students, and a response rate of 98%, the department came first in the College and nationally in five out of seven categories in the NSS and second in the College and fourth nationally in two categories. The Department reported that closer investigation of the data revealed that two students, on the same BSc degree, scored the department 'satisfactory' in both of these categories. This resulted in a drop of 4% since the sample size was 52 students. In 2011-2012 the Department paid particular attention to the learning resources and personal development. This year they will continue to push hard in all their teaching related matters in order to provide a positive student learning experience for as many students as possible. The Department concluded by saying that they are far from complacent but are pleased to have scores over 90% two years in succession.

12.2.7 The Department of Electrical and Electronic Engineering reported that they were very pleased that their efforts over the last two years to make meaningful improvements in their teaching and learning provision have both shown increases in satisfaction over last year and placed them well above the sector average, indeed in 3rd place nationally. The Department commented that they are very conscious that there is considerable movement year to year and protecting this good position this coming year will be difficult. They also reported that they have sought to tackle the issues of providing programme and careers advice to students by bolstering their tutorial support for third year students and directing this specifically at these two issues.

12.2.8 The Department of Materials reported that as a result of NSS feedback they are adding a new member of staff to the student office to enable them to improve their

service to students. They have also hired new lab demonstrators to oversee safety in the UG labs, and improve the student experience. The Department also commented that they are now emphasising peer observation to get more rapid response to teaching problems and that they plan to provide students with as many marks as they can so they can monitor their progress. Finally, as well as the written feedback always provided, academics in the Department are being asked to provide verbal feedback on large reports.

12.2.9 The Department of Mechanical Engineering reported that the Department substantially increased its participation and achieved some significant improvements in results. They commented that it remains difficult to judge whether these two facts are connected, and difficult to find evidence for any causal relationship between categorisable actions and NSS-categorised results. They also concluded that they are resolutely committed to providing an educational experience which best serves both the development and well-being of their current students and the long-term interests of their graduates, their employers and the engineering profession.

13. Collaboration with the Royal College of Art

13.1 The Committee noted that the collaboration with the RCA's MA in Games Design on joint group projects, which it approved last year, has been delayed and will now not commence until October 2013.

14. Key Information Sets

14.1 The Committee noted that the College's KISs have now been published on the Unistats website (<http://unistats.direct.gov.uk>). There are two main points that the Committee were asked to note; that in general, Imperial students, have a lower percentage of satisfaction than students at other Russell Group institutions when you compare NSS questions relating to assessment and feedback, and that Imperial compares favourably with other Russell Group institutions in terms of the numbers of hours students spend in scheduled teaching and learning activities.

14.1.1 The Committee noted that HEFCE will be visiting the College on the 22 and 23 of January 2013 to audit the College's KIS data. Those Departments which have been selected as part of the HEFCE audit trail will be notified in due course.

15. Senate Executive Summary

15.1 The Committee noted the Executive summary of the meetings of Senate held on 2 May 2012 [**Paper AG**], 20 June 2012 [**Paper AH**].

16. QAAC Executive Summary

16.1 The Committee noted the Executive summary of the meetings of QAAC held on 17 May 2012 [**Paper AI**] and 26 June 2012 [**Paper AJ**] and 10 October 2012 [**Paper AK**].

17. Science Studies Committee Executive Summary

17.1 The Committee noted the Executive summary of the meeting of the Science Studies Committee held on 15 May 2012 [**Paper AL**].

18. Medical Studies Executive Summary

18.1 The Committee noted the Executive summary of the meeting of the Medical Studies Committee held on 29 May 2012 [**Paper AM**].

19. Date of Next Meetings

19.1 The Committee noted the date of the next meetings as Wednesday 13 March 2013 and Wednesday 22 May 2013.

20. Any Other Business

20.1 The Chairman of the Committee noted that it was Margaret Cunningham's last attendance at this Committee and thanked her for her past contributions and wished her well for her retirement.