

Programmes Committee (PC)

Tuesday 26 March 2019

9:30-18:00

The Games Room, The Ampersand Hotel, South Kensington

Present

Dr Edgar Meyer (Chair), Dr Lorraine Craig, Ms Lucy Heming, Dr Jo Horsburgh, Ms Kate Ippolito, Professor Jonathan Mestel, Professor Sue Smith, Dr Mike Tennant (Deputy Chair), Dr Roberto Trotta, Dr Vijay Tymms, Ms Judith Webster. Ms Men-Yeut Wong (Secretary) and Ms Betty Yue.

Apologies

Ms Jolande Bot-Vos, Mr Alejandro Luy, Ms Ute Thiermann, Mr Rob Tomkies

1 Welcome and Apologies

The Chair welcomed attendees to the meeting and apologies, as above, were noted.

2 PC.2018.69 Minutes of the Previous Meeting

The QAEC report of the decisions and recommendations taken at the 27 November 2018 meeting of the Programmes Committee were approved as an accurate record.

3 Matters Arising

It was suggested that formal outcomes presented to programme teams were difficult to interpret from discussions held at the Committee meetings to clear action points required from the programme teams. It was noted that support would be provided by the Programmes Committee Secretary to programme teams who required further guidance around the formal outcomes agreed by the Committee.

4 Curriculum Review Updates

The Committee received updates from members of the Committee (who also act as Curriculum Review Reference Panel Chairs) with the progress of their panels.

ITEMS FOR CONSIDERATION

5 Undergraduate Curriculum Review

Faculty of Engineering

5.1 PC.2018.70 Undergraduate Aeronautics

MEng Aeronautical Engineering
MEng Aeronautics with Spacecraft Engineering
MEng Aeronautical Engineering with Year in Industry
MEng Aeronautical Engineering with Year Abroad (4 Years)
MEng Aeronautical Engineering with Year Abroad (5 Years)

5.1.1 The Committee considered the redesigned programmes above from the Department of Aeronautics as part of Curriculum Review to take effect from October 2019.

5.1.2 The Programmes Committee were impressed with the programmes presented by the Department and shared the Panel Chair's compliments regarding the Department's engagement with the Curriculum Review process.

5.1.3 The Department should be commended for the exciting curriculum presented, the approach to inclusivity of students within the programme as presented in the Curriculum Review proposal and for their response to the Reference Panel's recommendations; the Committee also agreed

that the Academic Feedback Policy within the programme specification had been exemplary. It was also noted that the Panel had received a tour of the Department's facilities.

- 5.1.4 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 March 2020

- The Committee noted that the Programme Learning Outcomes presented are common across the programmes with little differentiation. The Committee advised that the Department consider what makes each of the individual programmes unique, if the programme learning outcomes could be reviewed to include an additional unique learning outcome for each programme and if each of the programme overviews could be reviewed to include a unique selling point. This would also be an opportunity to promote the benefits of choosing the specialism in Spacecraft Engineering, Year Abroad or Year in Industry;
- It is noted that the above is a reasonable undertaking, which should be supported by Educational Development Unit staff. Following discussion with the Faculty Education Team and Education Office it is suggested that this work is distributed over the next year, working towards a deadline of 31 March 2020.

Recommendation to be met by 31 May 2019

- With Programme Learning Outcome five, the Committee noted 'ill-defined' as a technical definition but students may be unsure the terminology. The Department are asked to review the use of 'ill-defined' and how this might be explained to students or to consider other possible alternatives;

- 5.1.5 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/ Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.

5.2 PC.2018.71 Undergraduate Bioengineering

MEng Biomedical Engineering
MEng Biomedical Engineering with Year in Industry
MEng Biomedical Engineering with a Year Abroad

MEng Molecular Bioengineering
MEng Molecular Bioengineering with Year in Industry
MEng Molecular Bioengineering with a Year Abroad

- 5.2.1 The Committee considered the redesigned programmes above from the Department of Bioengineering as part of Curriculum Review to take effect from October 2019.

5.2.2 The Committee noted that since January 2016, the Department of Bioengineering had taken part in a pilot for the Academic Model Project. As part of the project, the Department had been given the opportunity to modularise its programmes and to make further improvements and modifications (approved by the Programmes Committee July 2017).

5.2.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 March 2020

- The Committee noted that the programme intended learning outcomes had been formatted to align to the programme's Professional Bodies, but members were unsure as to which outcomes were set at a Master's FHEQ Level; the Department are recommended to separate the Master's level outcomes so that they are made more explicit to students. The programme team should also consider whether the learning outcomes should build in complexity and if they are reflective of what a student would achieve upon completing a MEng in Bioengineering;
- It is noted that the above is a reasonable undertaking, which should be supported by Educational Development Unit staff. Following discussion with the Faculty Education Team and Education Office it is suggested that this work is distributed over the next year, working towards a deadline of 31 March 2020. A package of support will be available for this activity which will be circulated in due course.

Recommendations to be met by 31 May 2019

- The Committee noted that the Admissions Test/Interview criteria within the entry requirements had not been consistent over the different programmes, in particular the Meng Biomedical Engineering programme where students who are not able to attend an interview day in person may have to complete a bespoke written test. The Department are advised to review this criteria, as the eligibility of being offered a test had not been made clear, for example, would students not be offered a place if they had been unable to attend an interview and had not been offered a test?;
- The Committee held discussions around the additional programme costs and agreed that the Department should clarify whether there is support or a hardship fund for students who are not able to afford these additional costs. The Faculty may wish to provide a standardised statement for programmes across the Faculty.

5.2.4 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.

5.3 PC.2018.72 MEng Chemical with Nuclear Engineering

5.3.1 The Committee considered the redesigned programme above from the Department of Chemical Engineering as part of Curriculum Review to take effect from October 2019.

5.3.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendation to be met by 31 March 2020

- The Committee recommended that the Department present the learning outcomes for the exit awards as they had been presented in the other undergraduate Chemical Engineering programmes (considered by the Committee in January);
- The Department are advised to liaise with the Educational Development Unit to ensure that the MEng FHEQ Level 7 learning outcomes are set at an appropriate level;
- It is noted that the above is a reasonable undertaking, which should be supported by Educational Development Unit staff. Following discussion with the Faculty Education Team and Education Office it is suggested that this work is distributed over the next year, working towards a deadline of 31 March 2020. A package of support will be available for this activity which will be circulated in due course.

Recommendations to be met by 31 May 2019

- The Committee noted the rationale from the Department as to why an I-Explore module could not be included in the programme and agreed that for this programme only an exception would be made and the programme would be exempted from this requirement

5.2.3 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To check for typographical and formatting issues throughout the documents submitted.

5.4 PC.2018.73 MEng Design Engineering

5.4.1 The Committee considered the redesigned programme above from the Dyson School of Engineering as part of Curriculum Review with effect from October 2019.

5.4.2 The Programmes Committee noted that the School had engaged well with the Curriculum Review process and had presented a refreshing and clear proposal in a way which had been unique to other programme teams within College; resulting in a conceptually strong programme.

5.4.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

- The School should provide an academic rationale for the 12.5 ECTS weighted modules which do not conform to the College's permitted credit size;

- The School should provide an academic rationale for the programme specific year weightings which do not conform to the College's Academic Regulations.

Post-meeting note: Following the meeting of the Programmes Committee it was noted that appendices from the Dyson School of Engineering had been provided by the Faculty separately to the initial submission of their Curriculum Review paperwork. With the circulation of the Programmes Committee papers to members, these appendices were omitted in error. It was agreed that the appendices would be presented to the next meeting of the Programmes Committee Tuesday 7 May 2019.

5.5 PC.2018.74 Undergraduate Electrical and Electronic Engineering

BEng Electrical and Electronic Engineering

MEng Electrical and Electronic Engineering (Technical stream)

MEng Electrical and Electronic Engineering (Management stream)

MEng Electrical and Electronic Engineering with a Year Abroad

BEng Electronic and Information Engineering

MEng Electronic and Information Engineering

MEng Electronic and Information Engineering (Technical Stream)

MEng Electronic and Information Engineering with a Year Abroad

- 5.5.1 The Committee considered the redesigned programme above from the Department of Electrical and Electronic Engineering as part of Curriculum Review with effect from October 2019.
- 5.5.1 The Programmes Committee agreed that the Department had presented a detailed Curriculum Review proposal and commended the Department's positive engagement with the Curriculum Review process; the Committee noted that the Department had initiated a Strategic Curriculum Team 2017 to analyse what would be required for Curriculum Review and this initiative had been productive. The Committee also that the Department's approach to engaging students to the Curriculum Review process had been exemplary.
- 5.5.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Committee advised that the Department review the use of 'You are expected to' within the key principles section of the programme specification; could the alternative of 'you will develop' be applicable?;
- The Committee recommended that the exit awards could be introduced as 'in completion of Year 1, you will be able to...' rather than 'if you withdraw...';
- The Committee recommended that the Department review how all the modules in Years 1 and 2 have been designated as 'compulsory' and if this is correct;
- The reference to a total of 15 ECTS of compensation being permitted across the entirety of the programme should be added to the Programme Specification regulations part of the Programme Specification;
- The Committee advised that the programme overview could be further enhanced to add some narrative about the Department, the benefits of an accredited programme and to link

to the Department's research projects; this would be an opportunity to showcase their expertise;

- In addition to the information provided in the programme overview section for each of programmes the Programmes Committee agreed that the text could be enhanced by provided some further information about what the students will expect to gain from choosing the MEng/Technical Stream/Management Stream or the Year Abroad programme rather than the BEng. In addition it would be useful to note the key points of the year when students would be able to transfer from one programme to another and the restrictions (if any). It could also be useful for applicants if Partner Institutions were referenced in the Year Abroad programme overview;
- The Department are recommended to review learning and teaching hours allocated to the final year of study where 'no timetabled hours are made available' and that it would be the students' responsibility to arrange regular meetings with the supervisor. The Committee suggested that both the supervisor and student should mutually agree on suitable times to meet if the supervisor/tutor makes their availability of hours known;
- Discussions were held by the Committee around the timetabling of exams the first day after Christmas break and the availability of support for students to prepare for these exams during their break. The Committee noted that this issue would be addressed when the Academic Calendar is approved, but that the Department should still review the timing of when the exam is set in the year;
- The Committee suggested that the Department consider adding a language requirement to the Entry Requirements section of the programme specification, or it should be made clear within the programme overview the level of proficiency required for a student to be eligible to take the Year Abroad programme or a placement within an overseas institution;
- The Committee supported the intention to review the MEng with Management programme with the Business School in the near future and the resulting change which would see the I-Explore module being made compulsory instead of elective (as it is currently recorded);

5.5.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To clarify the formatting of the use of '±' within the assessment weightings tables;
- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To check for typographical and formatting issues throughout the documents submitted.
- The Committee noted the Department's best practice of adding the 'important notice' section to the programme specification and considered the notice be added other programme specification across College.

5.6 **PC.2018.75 Undergraduate Materials**

BEng Materials Science and Engineering
MEng Materials Science and Engineering

BEng Materials with Management
MEng Biomaterials and Tissue Engineering
MEng Materials and Nuclear Engineering

- 5.6.1 The Committee considered the redesigned programme above from the Department of Materials as part of Curriculum Review with effect from October 2019.
- 5.6.2 The Programmes Committee noted that the Department had engaged well with the Curriculum Review process and panel; and commended the Department for taking this opportunity to overhaul their programme offering which in turn has resulted in a well-designed suite of programmes and modules.
- 5.6.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 March 2020

- The Committee noted that the evaluation section of the Curriculum Review Proposal Form there would be a student panel comprised of five students evaluating the changes made to the curriculum, it was queried whether the evaluation would be too burdensome for five students and if this would be the correct way to evaluate the changes. The Department are advised to seek further guidance from the Educational Development Unit who would be able advise around the evaluation process;
- The Committee noted that the Curriculum Review Reference Panel had noted that the Department should review the use of 'demonstrate understanding' within the Programme Learning Outcomes; although the Department had reflected upon this, the Committee were unsure as to how 'demonstrate understanding' and 'reflect' would be measured;
- The Committee recommend that Department to consider how the learning outcomes are presented and whether they should be structured in a staged format starting with the intermediate awards first then progressing with to the full degree award with 'in addition to the above learning outcomes, upon successful completion of the MEng award, you will be able to:.....';
- The Committee recommended that the Department review how the learning outcome 'Consider the legal, social, ethical and professional principles associated with Materials Science and Engineering and act in a manner that respects those principles' the Committee thought the Department could consider rephrasing this learning outcome to 'Adhere to the legal, social, ethical and professional principles.....' and consider how this would be assessed;
- It is noted that the above is a reasonable undertaking, which should be supported by Educational Development Unit staff. Following discussion with the Faculty Education Team and Education Office it is suggested that this work is distributed over the next year, working towards a deadline of 31 March 2020. A package of support will be available for this activity which will be circulated in due course.

Recommendations to be met by 31 May 2019

- The Committee found it difficult to understand the concept of the diagram within the programme overview of the programme specifications and recommended that it would be useful to students if a short narrative could be provided to explain the overlap of topics and the direction of the arrows. Do students learn about processing, structure, properties and performance and how it influences and informs design?;

- The Committee recommended that the Department review how the programme overview concentrates on the Processing modules, and if the other modules within Structure, Properties and Performance could be further elaborated on;
- The Committee advised that the Department review how the programme learning outcomes are introduced. This programme specification is a student facing document and therefore it was suggested that the outcomes should be introduced as 'Upon the successful completion of *insert award*, you will be able to: ...' rather than 'a typical student will be able to: ...';
- The Committee noted that the Curriculum Review Reference Panel had suggested that the Department review the use of 'short and fat' and 'long and thin' modules and whether students would be able to understand these terminologies; could the Department consider 'year-long modules' and 'term-long modules';
- The Committee noted that within the Additional Programme Costs, the Department had provided the minimum specifications for a laptop, the Department should be aware that this may require review year on year;
- The Committee recommended that the Department consider providing a short narrative for each programme within the programme overview, this would allow the student to identify the benefits of each programme and why they would select one over the other. The Committee agreed that the text could be enhanced by providing some further information about what the students will expect to gain from choosing the MEng rather than the BEng, it would be useful to note the key points of the year when students would be able to transfer from one programme to another and the restrictions (if any), also to note whether the BEng programmes are accredited;
- The Committee discussed the Department's inclusion of the programme specific regulations 'Provided a student has passed the year a student may be allowed the opportunity to be reassessed on failed modules in Year 1,2 and 3, at the discretion of the Board of Examiners'. This should be updated to align with the final Academic Regulations on failure, reassessment and progression.

5.6.4 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- Correction of the typo 'i-eplore';
- Addition of the Department's Competency Standards
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To check for typographical and formatting issues throughout the documents submitted.

5.7 **PC.2018.76 Undergraduate Joint Maths and Computing**

5.7.1 The Committee considered the redesigned programme above from the Department of Computing and Department of Mathematics with effect from October 2019.

5.7.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 March 2020

- The Committee recommended that the programme team review how the programme learning outcomes map to the assessment strategy and how students will be able to demonstrate that they have achieved each outcome upon completion of each of the years, in particular:
 - 1. Explain the basic operation of a computer.- Consider how would 'basic' be quantified;
 - 8. Explain the social, ethical and professional principles associated with computer-based technology and act in a manner that respects those principles.- Consider how this would be assessed;
 - 15. Adhere to relevant laws that impact on the practice of computing - Consider how this would be assessed;
 - 20. Demonstrate effective application of Computing in scientific, engineering and industrial domains, as an individual. – Consider if this would be better rephrased as 'Individually demonstrate.....';
- It is noted that this is a reasonable undertaking, which should be supported by Educational Development Unit staff. Following discussion with the Faculty Education Team and Education Office it is suggested that this work is distributed over the next year, working towards a deadline of 31 March 2020. A package of support will be available for this activity which will be circulated in due course.

Recommendations to be met by 31 May 2019

- The Committee noted that the unique mathematics modules had not been presented to the Faculty of Natural Sciences for approval, the Department of Mathematics are recommended to present the unique mathematics modules for approval by the Faculty of Natural Sciences Education Committee;

Post-meeting note: The Secretary of the Programmes Committee received approval of the unique mathematics modules by Chair's Actions on behalf of the Faculty of Natural Sciences Education Committee. The programme team are advised to consider the recommendations made by the Chair of the Faculty of Natural Sciences Education Committee;

- The Committee noted that during the third year of study, students 'will also complete a substantial individual project in either of the two departments' the Committee recommended that the two departments consider the possibility of a joint project between the Department of Computing and the Department of Mathematics;
- The Committee recommended that the programme overview could be further enhanced by using some of the narratives presented in the computing and mathematics programmes, an introduction to both Departments and the benefits of a student choosing to study this programme;
- The Committee advised that the programme team review how the programme learning outcomes are introduced. This programme specification is a student facing document and therefore it was suggested that the outcomes should be introduced as 'Upon the successful completion of the BEng, you will be able to: ...' rather than 'Upon successful completion of the programme a typical BEng student will be able to: ...';
- The Committee also recommended that the programme team consider how the exit awards are presented, and should be introduced as 'Upon successful completion of two

years of study, leading to the award of a Diploma (DipHE), you will be able to:.....' rather than 'On completion of year 1 (equivalent to a Cert HE)...';

- Review the assessment weightings table to ensure the sum of each year totals 100;

5.7.3 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- Addition of the Department's Competency Standards
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To check for typographical and formatting issues throughout the documents submitted.

Faculty of Natural Sciences

5.8 PC.2018.77 Undergraduate Chemistry

BSc Chemistry

MSci Chemistry

MSci Chemistry with a Year in Industry

MSci Chemistry with Medicinal Chemistry

MSci Chemistry with Medicinal Chemistry and a Year in Industry

MSci Chemistry with Molecular Physics

MSci Chemistry with Molecular Physics and a Year in Industry

MSci Chemistry with Research Abroad

MSci Chemistry with Research Abroad and a Year in Industry

MSci Chemistry with French for Science

MSci Chemistry with German for Science

MSci Chemistry with Spanish for Science

BSc Chemical Sciences with Management

BSc Chemistry with Management

BSc Chemistry with Management and a Year in Industry

5.8.1 The Committee considered the redesigned programmes above from the Department of Chemistry for approval with effect from October 2019.

5.8.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Committee noted that in some instances, the programme overview appears generic and applicable across multiple programmes, it was recommended that there should be a review of all the programme overviews to ensure that each has been contextualised to the specific programme. The Department are also advised to review the overviews to ensure that reference made to elective choices are correct, some of the overviews presented state

that 'in Years 3 and 4 you will select from a range of chemistry electives' when the programme structure for Years 3 and 4 had actually been a fully core programme;

- It was advised that it should be clearly articulated that not all teaching takes place at the South Kensington campus and that travel is expected to the White City campus;
- For the programmes where there are additional learning outcomes, the Department should consider refining these sets of learning outcomes as some of the lists appear to be extensive and specific to the specialism rather than presenting a holistic set of outcomes for the full programme. The Department should consider whether these additional learning outcomes could be integrated to the existing 7 programme level learning outcomes;
- Rather than introducing the learning outcomes as 'Students awarded a BSc Chemistry/ Diploma of HE/etc., be able to:' it was advised that this could be revised to 'Upon completion of the BSc in Chemistry, you will be able to:';
- That the assessment strategy for each programme is reviewed to ensure that all learning outcomes have been mapped to, currently learning outcomes 1-6 are mapped but it is unclear how learning outcome 7 (Employ the transferrable skills and core competencies expressed in the Imperial Graduate Attributes) is assessed;
- The Committee appreciated that a lot of thought has been given by the Department as to how the learning outcomes would be presented but advised that the Department further review how they have been formatted. In some cases, where you state that 'in addition to the FHEQ L4/L5 below/above' it may not be clear to students what the FHEQ L4/L5 learning outcomes would be, and also to review where 'above/below' is used as sometimes they guide the student to the wrong set of intended outcomes;
- Review that reference made to Viva Voce examinations are correct. At Imperial, Vivas must include an external examiner whereas oral assessments are defined by Imperial as a conversation or oral presentation on a given topic;
- The Quality Assurance Team has agreed to provide a College-wide set of standardised statements for programmes with a Year in Industry/Year Abroad for the additional programme costs section. The Department are advised to note that if items such as lab coats or any other personal protection equipment is provided by the department, then this should be noted;
- The Committee raised concerns around the high level of assessments allocated to the language modules within the Chemistry with Language for Science programmes. The Department should consider whether the assessments could be reviewed and determine whether some assessments could be formative rather than summative;
- The Committee noted that for programmes with Languages, Research Abroad or Year in Industry; the assessment breakdown table within the assessment strategy section of the programme specification may require review as the year spent away from college may not reflect the practices at partner institutions.

5.8.3 Actions agreed to be undertaken by the Quality Assurance Team:

- Reference to 'MSci Honours' in the programme information section of the programme specification to be removed as this is not an award, this should just be 'MSci';
- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate

requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);

- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.

5.9 PC.2018.78 Undergraduate Life Sciences

BSc Biochemistry

BSc Biochemistry with Management (3 years)

BSc Biochemistry with Management (4 years)

BSc Biochemistry with a Year in Industry/Research

BSc Biochemistry with Research Abroad

BSc Biochemistry with French for Science

BSc Biochemistry with German for Science

BSc Biochemistry with Spanish for Science

BSc Biotechnology

BSc Biotechnology with Management

BSc Biotechnology with Research Abroad

BSc Biotechnology with a Year in Industry/Research

BSc Biotechnology with French for Science

BSc Biotechnology with German for Science

BSc Biotechnology with Spanish for Science

BSc Biological Sciences

BSc Biological Sciences with Management (3 year)

BSc Biological Sciences with Management (4 year)

BSc Biological Sciences with Research Abroad

BSc Biological Sciences with a Year in Industry/Research

BSc Biological Sciences with French for Science

BSc Biological Sciences with German for Science

BSc Biological Sciences with Spanish for Science

BSc Ecology and Environmental Biology

BSc Microbiology

5.9.1 The Committee considered the redesigned programmes above from the Department of Life Sciences as part of Curriculum Review to take effect from October 2019.

5.9.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Programmes Committee noted that the Department had focused their redesign of their curriculum on Years 1 and 2. Year 3 of the above programmes have yet to align to Curriculum Review and an exception to the Academic Regulations from Programmes Committee was being sought to allow for 12.5 ECTS modules. A proposed schedule for the development of Year 3 was presented and it is the Department's intention to run Year

3 of all programmes as it currently operates and alignment to the Learning and Teaching Strategy will be completed by April 2021 in time for the 2019 cohort to make their final year module selection.

- The Committee noted that several discussions have been held between the Department, Curriculum Review Reference Panel and the Faculty of Natural Sciences Education Committee regarding the 12.5 ECTS weighted modules and that the Department had received the support of their Faculty for the exception.
- The Programmes Committee will allow for this exception subject to a time limit; the Department must consider the final year of all programmes during the Curriculum Review process of its Postgraduate provision.
- The Committee noted that the Department had engaged well with students, that the return rate of the student survey had been positive, and engagement of the Student Shapers Project had been an encouraging initiative. The Committee agreed that it would be useful if the Department update the Curriculum Review proposal Form to include a summary of comments made by employers during the consultation with the Industry Advisory Panel.
- With the Department's plans for further curriculum development and implementation, the Committee requests for further assurances from the Department that all of the timelines proposed are feasible, in particular with the radical changes proposed to the teaching in the Summer term of Year 2 in both degree streams to be completed by September 2020. The Department would still have to adhere to the College's Major Modification deadline of the 31st March 2020 for the changes to apply to the October 2020 cohort.
- It was advised that the Department should also be mindful of the changes proposed and the implications that they may have for the students' experience during their programme.
- The Committee noted that the Programme Learning Outcomes for the BSc Biochemistry and the BSc Biological Sciences degrees were common, the Committee queried that if the learning outcomes of the two degree streams are overarching it would be difficult to distinguish why it is not a single programme stream. The Committee advised that the Department consider what makes each of the individual programmes unique, if the programme learning outcomes could be reviewed to include an additional unique learning outcome for each programme and if each of the programme overviews could be reviewed to include a unique selling point. This would also be an opportunity to promote the benefits of choosing the Research Abroad, Year in Industry/Research programmes.
- The Committee recommended that it would be useful if a short narrative could be included in the programme overview to make students aware at which points of their study that they are able to transfer between programmes if Year 1 and Year 2 are a common programme.
- The Committee were unsure as to how the programme learning outcome 'conduct statistical analyses using programming skills, adhering to publication standards' would be achieved if these skills would be delivered via an elective module. The Department should consider whether this outcome is achievable by all students.
- The Committee recommended that for the programmes with languages, the Department consider adding a learning outcome focusing around languages in the Dip HE/Year 2 section of the learning outcomes as that would be the year when students take their core language module.
- The Committee noted that there was a restricted elective programme presented for the BSc in Ecology and Environmental Biology and the BSc in Microbiology programme, the

Department are advised to review the programme structures presented in the programme specifications, in particular the elective rules applied which effectively mean that some of the electives would be core or compulsory.

- With great effort, detailed module recommendations were provided by the Curriculum Reference Panel Chair; it would be useful if the Department could respond to the points made so that the Programmes Committee can evidence that the comments have been considered.

5.9.3 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/ Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.

5.10 **PC.2018.79 Undergraduate Mathematics**

BSc Mathematics

BSc Mathematics with Mathematical Computation

BSc Mathematics (Pure Mathematics)

BSc Mathematics with Applied Mathematics/ Mathematical Physics

BSc Mathematics with Statistics

BSc Mathematics with Statistics for Finance

BSc Mathematics, Optimisation and Statistics

MSci Mathematics

MSci Mathematics with a Year Abroad

5.10.1 The Committee considered the redesigned programme above from the Department of Mathematics as part of Curriculum Review to take effect from October 2019.

5.10.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Programmes Committee noted that the Department had focused their redesign of their curriculum on Years 1 and 2. Years 3 and 4 of the above programmes have yet to align to Curriculum Review and a proposed schedule for the review was presented with plans to develop new modules over the next 2-3 years which will then be added to programmes to further enhance them. It is envisaged that these modifications would be finalised by March 2021. The Department are advised to continue to engage students' involvement with the Curriculum Review Process of Years 3 and 4 to ensure that they are well informed prior to making their module choices;
- The Committee held discussions and received a narrative regarding the module mark scaling of all programmes. It had been suggested that if scaling is a process that occurs

often, could the assessment design process be rethought to mitigate the need to scale. The Department's transparency of the process had been noted, however the Committee advised that the frequent application of the process should be closely monitored and reviewed;

Post-meeting note: Further discussion between the Committee Chair and Secretary, it was recommended that that reference made to scaling should be removed, as it had been agreed that this was not an exception to the Academic Regulations and that further details around the Department's approach to the scaling process would be made available to students in the programme's handbook;

- The Committee reviewed the programme learning outcomes and had made the following comments for the Department's further consideration:
 - DipHE: "apply a reasonable level of skill" the Committee suggested that this outcome would be difficult measure as "reasonable" would not be specific enough to quantify, the Department are also advised to ensure that this outcome is set at the appropriate FHEQ Level 5.
 - The final learning outcome of the DipHE "demonstrate personal development through taking ownership of own learning journey and making use of appropriate resources in order to make choices and gain support" seemed unfinished, are students expected to know when to 'gain support' or had this been an unfinished sentence. The Committee also queried how this outcome would be assessed to demonstrate that the outcome had been achieved.
- The Committee recommended that the Department clarify the pre-requisite rules presented in Year 2 of each programme where "electives can be pre-requisites for Year 3 modules; pre-requisites can be varied at the discretion of the Department", the Department are advised that it would be helpful for students to know what they would have to achieve in order to be eligible to select the varied pre-requisites and at what point of the year eligibility is considered;
- The Committee noted the high level of written assessments designed into the modules, with the end of year written exams weighted at 70% in the first year and up to 90% in the final year of study and advised that this should be kept under review to ensure the burden on students is monitored and not excessive;
- The Committee noted that a module for the Year Abroad module had not been presented, and queried how the Year Abroad would be assessed, the Department are recommended to present a module outline which details the expectations of the students for this year and if they would need to complete a project;
- The Committee advised that the Department would need to request for exception to the Academic Regulations should they wish to have programme specific regulations in relation to the compensation rules (as the Academic Regulations allow for compensated fails to be awarded for up to a maximum of 15 ECTS credits per year of study for marks between 30.00-40.00 for undergraduate modules) This should be referred to the Regulations and Policy Review Group for consideration;
- With great effort, detailed module recommendations were provided by the Curriculum Reference Panel Chair; it would be useful if the Department could respond to all the points made so that the Programmes Committee can evidence that the comments have been considered.

5.10.3 Actions agreed to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/ Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.
- Reference made to 'BS modules' will be replaced with 'BPES modules'.

5.11 PC.2018.80 Undergraduate Physics

BSc Physics

MSci Physics

MSci Physics with Year Abroad

BSc Physics with Theoretical Physics

MSci Physics with Theoretical Physics

BSc Physics and Music Performance

5.11.1 The Committee considered the redesigned programmes above from the Department of Physics as part of Curriculum Review with effect from October 2019.

5.11.2 The Committee agreed that the Department had presented a comprehensive proposal of their redesigned curriculum with areas of good practice including good student engagement and a detailed plan of development for the BSc Physics and Music Performance programme to align with the Royal School of Music's own curriculum review process.

5.11.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Committee noted that the focus of the Department's Curriculum Review had been on Years 1 and 2 to redefine the shared common programme as there is more differentiation between the programmes from Year 3. The Department are advised to present a clear timeline of how Years 3 and 4 will be further developed to align to the Learning and Teaching Strategy;
- The Committee noted that the Royal College of Music would be initiating their own curriculum review process and the timescale is a year behind that of Imperial and the approved curricula would be implemented from September 2020. The Department are advised to keep students informed of changes to their curricula especially if their module choices will be affected;
- The Committee agreed that the programme overview of the programmes could be reviewed to become less generic. The Department could reflect on the diverse specialisms

of their Department and programmes linking to research; this would be an opportunity to showcase their expertise;

- In addition to the information provided in the programme overview section for each of programmes the Programmes Committee agreed that the text could be enhanced by provided some further information about what the students will expect to gain from choosing the MSci or the Year Abroad programme rather than the BSc, it would be useful to note the key points of the year when students would be able to transfer from one programme to another and the restrictions (if any). It would also be useful for applicants if Partner Institutions were referenced in the Year Abroad programme overview;
- The Committee welcomed the Department's good practice around student well-being which had been exemplary, it was advised that the Department review how student well-being would be applied to the Year Abroad programme as a disclaimer may be required that this may not be applicable to students during their year abroad at another institution;
- The Committee recommended that the Department review the below learning outcomes to ensure that they are appropriate and quantifiable; the Department should consider if students would be able to demonstrate that they have achieved the outcomes by completing assessments as part of their study, for example, how would a student demonstrate that they are 'open-minded' or how would the Department measure how a student has demonstrated 'an appreciation' of a specific topic:
 - 11. demonstrate an appreciation of the fundamental nature of the discipline of physics as a science founded on mathematics, experiment and observation, and its cultural and practical importance in society.
 - 12. apply an integrated understanding of classical and modern physics and associated mathematical tools and use them to tackle both well-defined and open-ended problems making appropriate simplifications, estimations and approximations, to formulate solutions and present them logically;
 - 16. be objective, open-minded, critically-thinking and curious and have the confidence to apply understanding and skill to tackle new and complex challenges within and beyond the discipline;
 - 17. reflect critically on understanding, learning and skills, identifying strengths and areas for further development, to grow continually in expertise.
- The Department are advised to review their Admissions Test/Interview criteria as detailed in the Entry Requirements; rather than singling out international students who may not be able to attend interviews on campus, it would be advisable to address the applicant cohort as a whole. The Department are asked to consider alternative arrangements for those unable to attend interviews on campus, and to consider if Skype interviews would be feasible;
- The Committee noted the high level of written assessments designed into Year 2 and the final taught years, with written exams weighted at 70%. The Department are advised to consider this for review to ensure that students are not overburdened and to keep to the ethos of the Learning and Teaching Strategy;
- The Committee noted that the MSci Physics with a Year Abroad programme included a bidding process for an English-speaking exchange placement, it would be useful if the Department could provide further details of the bidding process, when this would take place (e.g. Spring Term of Year 1) and what a student would be expected to do;
- With great effort, detailed module recommendations were provided by the Curriculum Reference Panel Chair; it would be useful if the Department could respond to the points

made so that the Programmes Committee can evidence that the comments have been considered.

5.11.4 Actions to be undertaken by the Quality Assurance Team:

- In the Entry Requirement section of the programme specifications the general approach across the College to only include the A-Level and International Baccalaureate requirements, with information about other qualifications being provided in the online prospectus (for which a link will be provided);
- The text on the programme structure be revised to make clear that there are some core/compulsory modules in years three and four (as appropriate to the programme);
- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To provide College-wide standardised statements for programmes with a Year in Industry/ Year Abroad for the additional programme costs section;
- To check for typographical and formatting issues throughout the documents submitted.

6 Postgraduate Curriculum Review- Faculty of Medicine

Department of Medicine

6.1 PC.2018.81 MRes Molecular and Cellular Basis of Infection

6.1.1 The Committee considered the redesigned programme above from the Department of Medicine as part of Curriculum Review to take effect from October 2019.

6.1.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

Recommendations to be met by 31 May 2019

- The Programmes Committee noted that the programme could accommodate the intermediate awards of a Postgraduate Certificate and a Postgraduate Diploma, however this may not have been possible due to the to the funding of the Wellcome Trust, the programme team are advised to confirm the restrictions;
- The programme overview assumes that the programme is preparing the students for PhD study, the programme team are advised to clarify if this is correct and if students who do not go on to apply for a PhD have been considered in terms of what they will get out of the programme;
- The programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are set at an appropriate Master's FHEQ Level 7 and that they are evidently measurable and aligned the assessment strategy, for example considering the use of terms like 'explore', 'employ' and 'apply'. The programme team should also consider whether two programme learning outcomes are appropriate and reflective of what a student would achieve upon completing a MRes in Molecular and Cellular Basis of Infection. The programme team should consider the level of the active verbs used to ensure that students are able to demonstrate a level of mastery in the above programme;
- The assessment strategy should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to illustrate the assessments

utilised in each module, how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment;

- The criteria of 'met specific requirements for an award as outlined in the approved programme specification for that award' within the Award of a Degree of Master of Research (MRes) section of the Progression and Classification has been removed, the programme team are asked to provide a rationale as to why this has been removed;

6.1.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

6.2 PC.2018.82 MSc Applied Genomics

6.2.1 The Committee considered the redesigned programme above from the Department of Medicine as part of Curriculum Review with effect from October 2019.

6.2.2 The change in programme title from **MSc Functional Omics** to **MSc Applied Genomics** was noted by the Programmes Committee.

6.2.3 Committee members were in agreement that the programme would benefit with the programme team better engaging with the Curriculum review process with the opportunity to present a revised programme to the Programmes Committee during the next academic year. This would allow the programme team further time to consider comments made by Committee members.

Post-meeting note: a meeting between the Chair and Secretary took place after the Programmes Committee and agreed that the programme team should have the opportunity to respond to comments made by members within this academic year. The programme team would be expected to present their response to the Programmes Committee before full College approval is sought.

6.2.4 In response to the Curriculum Review proposal, the Committee made the following recommendations below:

- It was not clear to the Committee how recommendations made by the Curriculum Review Reference Panel had been met, it was advised that the programme team review the comments to ensure that they have been addressed or considered; each point should be responded to;
- The Committee commented that the Curriculum Review Proposal Form did not articulate how the programme aligns to the Learning and Teaching Strategy, it is advised that the programme team engages with their Faculty Curriculum Review team in ensuring that the 'The rationale and approach taken to reviewing and redesigning the curriculum and assessment' section has been completed to detail how the Learning and Teaching Strategy has been aligned to;
- The Curriculum Review Reference Panel shared serious concerns on more than one occasion around the use of TBL as a form of assessment, the use of TBL had been asked to be reconsidered. An academic rationale was presented in response to this concern for keeping TBL, however the programme team are asked to consider if this is the best form of assessment for all modules 1-3.

- Comments made by the Reference Panel regarding the programme learning outcomes had not been responded to, the programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are appropriate and that they are evidently measurable by the assessment strategy;
- The assessment strategy section in the Programme Specification should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to do more than list the assessments utilised in each module but to also show how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment;
- The Programme Specification award section on the first page does not list any Exit Awards although there is reference to the PGCert exit elsewhere in the Programme Specification. The PGCert should be listed as a potential award in the award section (though as it is not available to entry, an entry point does not need to be included and a note can be added to say that this is only offered at the discretion of the Exam Board);
- It was noted that the Programme Specific Regulations stipulate a student may be compensated in modules up to the value of 7.5 ECTS for the award of pass/merit/distinction, the College regulations allow for 15 ECTS. If it is the programme team's intention to keep the compensation value at 7.5 ECTS then reference to 'no more than 15 credits as a compensated fail' should be removed from the Progression and Classification section, the Curriculum Review Proposal Form should be updated with a rationale for this programme specific regulation;

6.2.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

6.3 PC.2018.83 MSc Human Molecular Genetics

6.3.1 The Committee considered the redesigned programme above from the Department of Medicine as part of Curriculum Review with effect from October 2019.

6.3.2 The Programmes Committee received compliments from the Curriculum Review Reference Panel to note that the programme team had engaged well with the Curriculum Review process and had responded positively and proactively to their comments and recommendations. The Programmes Committee noted that the programme presented had been deemed exemplary from PGT Faculty of Medicine. The clearly articulated Academic Feedback Policy demonstrated good practice.

6.3.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

- The programme team's response to the Curriculum Review Reference Panel's comments seemed to indicate that there would be an intermediate award of a Postgraduate Certificate, this should be made more clear within the programme specification- the programme information section, programme overview, learning outcomes and programme structure (i.e. what modules would a student need to complete to be eligible for a PG Cert);

- The Committee noted that learning outcome one could be split and presented as two separate outcomes; the Committee also recommended that the programme team review the learning outcomes as a whole to ensure that they read fluidly and are grammatically correct;
- The programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are set at an appropriate Master's FHEQ Level 7, in particular the last learning outcome 'be able to begin to demonstrate original thinking', this could be further elevated to allow the student to display a mastery of the above programme;
- The Committee noted that the eligibility of the Admissions Test/Interview criteria of the Entry Requirements within the programme specification could be more specific, in particular, 'if the application looks promising', consider how would a student measure 'promising';
- The programme team are recommended to provide an indicative price range for the cost of the 6-month research project within the Additional Programme Costs section;

6.3.4 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.
- To remove the Programme Specific Regulations.

6.4 PC.2018.89 MSc Molecular Biology and Pathology of Viruses

6.4.1 The Committee considered the redesigned programme above from the Department of Medicine as part of Curriculum Review with effect from October 2019.

6.4.2 Committee members were in agreement that the programme would benefit with the programme team better engaging with the Curriculum review process with the opportunity to present a revised programme to the Programmes Committee during the next academic year. This would allow the programme team further time to consider comments made by Committee members.

Post-meeting note: a meeting between the Chair and Secretary took place after the Programmes Committee and agreed that the programme team should have the opportunity to respond to comments made by members within this academic year. The programme team would be expected to present their response to the Programmes Committee before full College approval is sought.

6.4.3 In response to the Curriculum Review proposal, the Committee made the following recommendations below:

- The Committee noted that the programme team had not received comments from the Curriculum Review Panel in time to respond for the Programmes Committee meeting. The Programme Team are advised to review the recommendations made by the Reference Panel and state how each comment has been considered/implemented;
- The Committee received comments from the Curriculum Review Reference Panel and agreed with the recommendation that the Curriculum Review Proposal Form should better articulate how the redesigned proposal aligns to the Learning and Teaching Strategy. It is advised that the programme team engages with their Faculty Curriculum Review team in ensuring that the 'The rationale and approach taken to reviewing and redesigning the

curriculum and assessment' and 'An outline of the ways in which the programme aligns with the objectives set out in the Learning and Teaching Strategy' sections have been completed to detail how the Learning and Teaching Strategy has been aligned to;

- It is advised that the programme team engage with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are mapped to modules and how each one is assessed and achieved;
- The Committee advised that the programme team review how the programme learning outcomes are introduced. This programme specification is a student facing document and therefore it was suggested that the outcomes should be introduced as 'Upon the successful completion of the MSc in Molecular Biology and Pathology of Viruses, you will be able to: ...' rather than 'by the end of the programme graduates will: ...';
- The Committee advised that the Learning and Teaching Approach of the programme specification could be reviewed to ensure that programme team are providing as much detail as possible to reflect actual practice. Currently the approach seems broad and not specific to the programme, the methods could be broken down to sub-headings with each providing more detail of what the student should expect;
- The assessment strategy should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to illustrate the assessments utilised in each module, how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment;

6.4.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

Department of Surgery and Cancer

6.5 PC.2018.84 MRes Medical Robotics and Image Guided Intervention

6.5.1 The Committee considered the redesigned programme above from the Department of Surgery and Cancer as part of Curriculum Review with effect from October 2019.

6.5.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

- The Programmes Committee noted that the programme team did not have the opportunity to respond to the Curriculum Review Reference Panel's comments, the programme team are recommended to review the comments made by the panel and respond concurrently with the recommendations outlined here by the Programmes Committee;
- The programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are set at an appropriate Master's FHEQ Level 7 and that they are evidently measurable and aligned the assessment strategy, in particular the learning outcomes specific to the Postgraduate Certificate;
- The Committee noted that the Admissions Test/Interview criteria of the Entry Requirements within the programme specification had been vague, 'candidates may be invited for interview in person or online', the programme team are recommended to

provide a more explicit criteria, students should be made aware of how they would be considered for an interview;

- Review the Academic Feedback Policy to ensure that the specified period of 21 days conforms with the Faculty of Medicine's feedback policy and to ensure that students are aware of all the different forms of feedback that they will receive during their time on the programme;
- The Committee recommended that the programme team review the learning outcomes as a whole to ensure that they read fluidly and are grammatically correct;

6.4.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

6.6 PC.2018.85 MSc Health Policy

6.6.1 The Committee considered the redesigned programme above from the Department of Surgery and Cancer as part of Curriculum Review with effect from October 2019.

6.6.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

- The Committee recommended that the programme team respond to the recommendations provided by the Curriculum Reference Panel Chair so that the Programmes Committee can evidence that the comments have been considered;
- The Committee were unsure as to how the programme would be delivered and recommend that the programme team clarify whether the programme presented is a blended programme;
- The Committee advised that the Learning and Teaching Approach of the programme specification could be reviewed to ensure that programme team are providing as much detail as possible to reflect actual practice. Currently the approach seems broad and not specific to the programme, the methods could be broken down to sub-headings with each providing more detail of what the student should expect;
- The assessment strategy should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to illustrate the assessments utilised in each module, how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment;
- The Committee recommended that the programme team review the learning outcomes to ensure that they are appropriate and quantifiable; the programme team should consider if students would be able to demonstrate that they have achieved the outcomes by completing assessments as part of their study, for example, how would a student demonstrate that they have 'developed into independent lifelong learners with high self-efficacy' or how would the Department measure how a student has displayed 'a strong sense of personal and professional identity';

- Review the regulations within the Progression and Classification to ensure that they map to the College Academic Regulations, the Quality Assurance and Enhancement Team will be able to help you identify the correct regulations if you are not seeking programme specific regulations.

6.6.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

6.7 PC.2018.86 MSc Patient Safety

6.7.1 The Committee considered the redesigned programme above from the Department of Surgery and Cancer as part of Curriculum Review with effect from October 2019.

6.7.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019 subject to the following recommendations:

- The Committee recommended that the programme team review how the learning outcomes had been structured, the programme team could introduce the outcomes for the Postgraduate Diploma and the MSc as 'in addition to the learning outcomes above, upon the successful completion of the Postgraduate Certificate/Diploma, you will be able to:....';
- The assessment strategy should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to illustrate the assessments utilised in each module, how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment.

6.7.3 Actions agreed to be undertaken by the Quality Assurance Team:

- To provide definitions for Core/Compulsory/Elective which can be included in a footnote or a webpage/glossary of terms;
- To check for typographical and formatting issues throughout the documents submitted.

National Heart and Lung Institute

6.8 PC.2018.87 MSc Cardiovascular and Respiratory Healthcare

6.8.1 The Committee considered the redesigned programme above from the National Heart and Lung Institute as part of Curriculum Review with effect from October 2019.

6.8.2 The Programmes Committee noted that the MSc Cardiovascular and Respiratory Healthcare programme had only been introduced in October 2018 with its first cohort and had yet to complete a full iteration of the programme. The Programmes Committee appreciates the programme team's engagement with the Curriculum Review process but thought that the team would benefit more if they reviewed the programme after the full iteration as they will have the complete data and external examiner/student consultation to inform changes to the current curriculum. The Committee advised that if the team are in agreement with the Committee, full support would be given to minor changes made to the programme for the next academic year whilst the team further review the curriculum;

Post-meeting note: a meeting between the Chair and Secretary took place after the Programmes Committee and agreed that the programme team should have the opportunity to respond to comments made by members within this academic year. The programme team would be given a choice to either defer the review of their programme until the next academic year or to respond to the outcomes suggested by the Committee.

6.8.3 In response to the Curriculum Review proposal, the Committee made the following recommendations below:

- The Committee commented that the Curriculum Review Proposal Form did not articulate how the programme aligns to the Learning and Teaching Strategy, it is advised that the programme team engages with their Faculty Curriculum Review team in ensuring that 'The rationale and approach taken to reviewing and redesigning the curriculum and assessment' and 'An outline of the ways in which the programme aligns with the objectives set out in the Learning and Teaching Strategy' sections have been completed to detail how the Learning and Teaching Strategy has been aligned to;
- The Committee recommended that the Programme Overview section of the programme specification is reviewed to ensure that the student is presented with an in-depth description of the programme. The programme team should be aware that the programme specification is used as a marketing tool and should provide the reader with a clear reflection of what the programme entails;
- The programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are set at an appropriate Master's FHEQ Level 7 and that they are evidently measurable and aligned the assessment strategy. The programme team should also consider whether two programme learning outcomes are appropriate and reflective of what a student would achieve upon completing a Postgraduate Certificate;

6.8.4 **Post-meeting note:** The programme team were presented with the outcomes and recommendations above, they were then advised to inform the Secretary of the Programmes Committee of how they intend to respond to the Committee; if they would prefer to review their programme in the next academic year or if they intend to respond to the recommendations listed with a deadline of 31 May 2019. It was noted that this would be subject to approval by both the Programmes Committee and the Quality Assurance and Enhancement Committee.

6.9 PC.2018.88 MSc Medical Ultrasound

6.9.1 The Committee considered the redesigned programme above from the Department of Surgery and Cancer as part of Curriculum Review with effect from October 2019.

6.9.2 Committee members were in agreement that the programme would benefit with the programme team better engaging with the Curriculum review process with the opportunity to present a revised programme to the Programmes Committee during the next academic year. This would allow the programme team further time to consider comments made by Committee members.

Post-meeting note: a meeting between the Chair and Secretary took place after the Programmes Committee and agreed that the programme team should have the opportunity to respond to comments made by members within this academic year. The programme team would be expected to present their response to the Programmes Committee before full College approval is sought.

6.9.3 In response to the Curriculum Review proposal, the Committee made the following recommendations below:

- The programme team are advised to liaise with the Educational Development Unit via your FoM PG Curriculum Review team to ensure that the learning outcomes are set at an appropriate Master's FHEQ Level 7 and that they are evidently measurable and aligned the assessment strategy. The programme team should also consider whether two programme learning outcomes are appropriate and reflective of what a student would achieve upon completing a Postgraduate Certificate;
- The Committee advised that the Learning and Teaching Approach of the programme specification could be reviewed to ensure that programme team are providing as much detail as possible to reflect actual practice. Currently the approach seems broad and not specific to the programme, the methods could be broken down to sub-headings with each providing more detail of what the student should expect;
- The assessment strategy should be reviewed to provide more narrative to the student, this section provides the programme team with an opportunity to do more than list the assessments utilised in each module but to also show how the assessment fits in to the students' learning and how the learning outcomes will be achieved by completing the module/assessment;
- The Programme Specification does not list Exit Awards; the Committee noted that if exit awards are not being offered, the Department must justify this and respond with a rationale as to why they will not be included;
- The Committee noted that with the part-time provision of the MSc Medical Ultrasound (Vascular) there is an unequal distribution of credits between the two years and agreed with the Reference Panel comments that student workload and experience could be impacted as the credit weighting for year 2 is double that for year 1. The Committee wish to seek further assurances from the programme team that this has been fully considered during the programme redesign process, and if the programme team had sought best practice from other part-time delivered programmes within the Faculty. It would also be useful if the programme team could share evidence of student consultation around this.

6.9.4 Actions agreed to be undertaken by the Quality Assurance Team:

- To check for typographical and formatting issues throughout the documents submitted.

7 Major Modifications to Existing Programmes

Imperial College Business School

7.1 PC.2018.91 MBA Programmes

Full Time MBA
Executive MBA
Weekend MBA
Global MBA

7.1.1 The Committee considered a proposal from the Business School to add a new elective 'BS5521 Digital Transformation: Leading Real-World Change' to the above suite of programmes with effect from February 2019.

7.1.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from February 2019.

7.2 PC.2018.92 Full-Time MBA

7.2.1 The Committee considered a proposal from the Business School to make changes to the assessment structure of the above programme with effect from September 2019.

7.2.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2019.

7.3 PC.2018.93 Executive MBA

7.3.1 The Committee considered a proposal from the Business School to make changes to the assessment structure of the above programme with effect from February 2020.

7.3.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from February 2020.

7.4 PC.2018.94 MSc Innovation, Entrepreneurship and Management

7.4.1 The Committee considered a proposal from the Business School to make changes to the programme structure of the above programme by changing the 'BS1408 Project Management' module from core to elective and to add five elective modules available for selection with effect from September 2019.

7.4.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2019.

7.5 PC.2018.95 MSc Business Analytics (On-Campus)

7.5.1 The Committee considered a proposal from the Business School to make changes to the programme structure of the above programme by withdrawing two existing primer modules, introducing a new primer module, to make changes to the assessment methods, to change the credit weighting of the core and elective modules to align with the Learning and Teaching Strategy with effect from September 2019

7.5.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2019.

7.6 PC.2018.96 MSc Business Analytics (Online)

- 7.6.1 The Committee considered a proposal from the Business School to change the programme start date of the above programme from October to September with effect from September 2020.
- 7.6.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2020.

7.7 PC.2018.98 MSc International Management

- 7.7.1 The Committee considered a proposal from the Business School to make changes to the programme structure of the above programme by changing the module 'BS0925 Global Immersion' from core to elective, changes to the assessment structure and changes to the learning outcomes of the modules BS0946 Advanced Corporate Finance and BS0958 Leadership in Action with effect from September 2019.
- 7.7.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2019.

7.8 PC.2018.99 MSc Strategic Marketing

- 7.8.1 The Committee considered a proposal from the Business School to make changes to the core module 'BS1523 Entrepreneurial Strategy and Marketing Planning' including changes to the learning outcomes and to change to module title to 'Entrepreneurial Strategy' with effect from September 2019.
- 7.8.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from September 2019.

Faculty of Engineering

7.9 PC.2018.100 BEng and MEng Molecular Bioengineering

- 7.9.1 The Committee considered a proposal from Department of Bioengineering to make changes to the above programme by replacing the withdrawn core module 'Bioengineering Solutions for Cancer' with 'Introduction to Cancer' with effect from October 2019.
- 7.9.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.9 PC.2018.101a MRes Bioengineering

- 7.9.1 The Committee considered a proposal from the Department of Bioengineering to make changes to the programme structure of the above programme including the withdrawal of four core modules and all elective choices, the introduction of new core modules 'Computational and Statistical Methods for Research', 'Topics in Biomedical Engineering' and 'Frontiers in Bioengineering Research' with effect from October 2019.
- 7.9.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.10 PC.2018.101b MRes Medical Device Entrepreneurship

- 7.10.1 The Committee considered a proposal from the Department of Bioengineering to make changes to the programme structure of the above programme including the review of the core module offering, the introduction of new core modules 'Computational and Statistical Methods for Research' and 'Topics in Biomedical Engineering and Business' with effect from October 2019.
- 7.10.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.11 PC.2018.101c MRes Neurotechnology

- 7.11.1 The Committee considered a proposal from the Department of Bioengineering to make changes to the programme structure of the above programme including the review of the core module offering, the introduction of new core modules 'Computational and Statistical Methods for Research' and 'Topics in Neural Engineering' and 'Frontiers in Neurotechnology Research' with effect from October 2019.
- 7.11.1 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.12 PC.2018.101d MSc Human and Biological Robotics

- 7.12.1 The Committee considered a proposal from the Department of Bioengineering to make changes to the programme structure of the above programme including the withdrawal of the core module 'Machine Learning and Neural Computation' and a review of the elective module offering with effect from October 2019.
- 7.12.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.13 PC.2018.102 Department of Computing

BEng Computing
MEng Computing
MEng Computing (Artificial Intelligence and Machine Learning)
MEng Computing (International Programme of Study)
MEng Computing (Management and Finance)
MEng Computing (Software Engineering)
MEng Computing (Visual Computing and Robotics)

BEng Mathematics and Computing
MEng Mathematics and Computing

MSc Advanced Computing

MSc Artificial Intelligence

MSc Computing (Artificial Intelligence and Machine Learning)
MSc Computing (Management and Finance)
MSc Computing (Software Engineering)
MSc Computing (Visual Computing and Robotics)
MSc Computing (Security and Reliability)
MSc Computing Science

- 7.13.1 The Committee considered a proposal from the Department of Computing to make changes to the programme structures of the above programmes including the change in the credit

weighting of the core and elective modules to align with the Learning and Teaching Strategy and changes to the programme learning outcomes with effect from October 2019.

- 7.13.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.14 PC.2018.103 UG Design Engineering (2016-17 Cohort)

- 7.14.1 The Committee considered a proposal from the Dyson School of Engineering to make changes to the programme above including the credit weighting of modules to align to the changes implemented as part of Curriculum Review with effect from October 2019.

- 7.14.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.15 PC.2018.103a UG Design Engineering (2017-18 and 2018-19 Cohorts)

- 7.15.2 The Committee considered a proposal from the Dyson School of Engineering to make changes to the programme above including the credit weighting of modules, the restructure of the year 3 and 4 modules, and programme learning outcomes to align to the changes implemented as part of Curriculum Review with effect from October 2019.

- 7.15.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.16 PC.2018.104 UG Aeronautics

MEng Aeronautical Engineering
MEng Aeronautical Engineering with Year Abroad
MEng Aeronautical Engineering with Year in Industry
MEng Aeronautics with Spacecraft Engineering

- 7.16.1 The Committee considered a proposal from the Department of Aeronautics to make changes to the programmes above to align to the changes implemented as part of Curriculum Review with effect from October 2019.

- 7.16.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.17 PC.2018.105 MSc Future Power Networks

- 7.17.1 The Committee considered a proposal from the Department of Electrical and Electronic Engineering to make changes to the programme above to introduce a new module 'Selected Topics in Power Systems' and to change the module 'Optimisation' from core to elective with effect from October 2019.

- 7.17.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

Faculty of Natural Sciences

7.18 PC.2018.106 MRes Advanced Molecular Synthesis

- 7.18.1 The Committee considered a proposal from the Department of Chemistry to approve the 1+3 format of the above programme following the successful funding for an EPSRC CDT in Next Generation Synthesis and Reaction Technology with immediate effect.
- 7.18.2 The Committee noted that the Quality Assurance and Enhancement Team would be reviewing the process of how new CDTs would be approved.
- 7.18.3 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.19 PC.2018.107 MRes Chemical Biology: Multidisciplinary Physical Scientists for Next Generation Biological, Biomedical and Pharmaceutical R&D

- 7.19.1 The Committee considered a proposal from the Department of Chemistry to change the title of the programme above to 'MRes Chemical Biology and Bio-Entrepreneurship' with effect from October 2019.
- 7.19.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

7.20 PC.2018.108 MSc Physics with Quantum Dynamics

- 7.20.1 The Committee considered a proposal from the Department of Physics to introduce the new stream above to the programme MSc Physics with effect from October 2019.
- 7.20.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with effect from October 2019.

8 Major Modifications – In-Year Changes to Existing Programmes

8.1 PC.2018.109 MRes Fluid Dynamics Across Scales

- 8.1.1 The Committee considered a retrospective proposal from the Department of Aeronautics to change the assessment weighting of the core module 'Computational Fluid Dynamics' in the above programme with immediate effect.
- To change the assessment weighting of coursework to examination from 40:60 to 50:50.
- 8.1.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with immediate effect (31 March 2019).

8.2 PC.2018.110 MRes Neurotechnology

- 8.2.1 The Committee considered a retrospective proposal from the Department of Bioengineering to change the structure of the above programme with immediate effect.
- Machine Learning & Neural Computation, and Medical Device Entrepreneurship modules - Change from Core to Elective;
 - Neuroscience, and Statistics & Data Analysis modules – Align to 5 ECTS in accordance with over MSc provision in the department;
 - Amend the assessment weightings for the programme.

- 8.2.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with immediate effect (31 March 2019).

8.3 PC.2018.111 MSc Control Systems

- 8.3.1 The Committee considered a retrospective proposal from the Department of Electrical and Electronic Engineering to suspend the module 'Modelling and Control of Multi-body Mechanical Systems' and to withdraw the module 'Distributed Computation and Networks: A Performance Perspective' of the above programme with immediate effect.
- 8.3.2 The Committee agreed to recommend the proposal to the Quality Assurance and Enhancement Committee for approval with immediate effect (31 March 2019).

9 Suspensions and Withdrawals of Existing Programmes

9.1 PC.2018.113 MSc Concrete Structures & Business Management MSc Structural Steel Design & Business Management

- 9.1.1 The Committee considered a proposal from the Department of Civil and Environmental Engineering to continue the suspension of the above programmes for an additional year for the 2019-20 intake.
- 9.1.2 The Committee recommended that the viability of the suspended programmes should be considered during the PGT Curriculum Review process.
- 9.1.3 The Committee recommends that the Quality Assurance and Enhancement Committee approve the proposal with effect from October 2019.

10 Items to Note

10.1 PG Civil and Environmental Engineering request for dispensation from anonymity requirement

MSc Transport (Joint Imperial College London and UCL)

MSc Concrete Structures
MSc Concrete Structures and Business Management
MSc Earthquake Engineering
MSc General Structural Engineering
MSc Structural Steel Design
MSc Structural Steel Design with Business Management

MSc Soil Mechanics
MSc Soil Mechanics and Business Management
MSc Soil Mechanics and Engineering Seismology
MSc Soil Mechanics and Environmental Geotechnics

MSc Engineering Fluid Mechanics for the Offshore, Coastal and Built Environments

MSc Environmental Engineering
MSc Environmental Engineering and Business Management
MSc Hydrology and Water Resources Management
MSc Hydrology and Business Management

- 10.1.1 The Committee noted a proposal from the Department of Civil and Environmental Engineering for the continued dispensation from anonymity for the above postgraduate programmes.

11 Any Other Business

There were no other areas of business to discuss

12 Dates of Future Meetings

Holding date: Monday 1 April 2019, 10:00 - 12:00, location to be confirmed.

Tuesday 7 May 2019, 10:00 - 13:00, EEE Seminar Room 909B.

Proposed dates for 2019-20

Tuesday 10th September 2019, 10:00 - 13:00

Tuesday 22nd October 2019, 10:00 - 13:00

Tuesday 3rd December 2019, 10:00 - 13:00

Tuesday 14th January 2020, 10:00 - 13:00

Tuesday 18th February 2020, 10:00 - 13:00

Tuesday 31st March 2020, 10:00 - 13:00

Tuesday 12th May 2020, 10:00 - 13:00