ANNUAL QUALITY IMPROVEMENT REPORT 2019/20

UG Biosciences

This appendix contains Year Leader's responses to 2019/20 External Examiners' comments and updates to actions from

Updates on actions from 2017/18			
Question	External Examiners comment	Update in 2018/19	Update 2019/20
1.2 Learning objectives, and the extent to which they were met	For the most part, learning objectives addressed by individual examination questions were indicated but this was not always done consistently and some omissions were noted. As a general observation, the complete range of learning objectives in each module required access to module handbooks; navigation of these online at speed and in high volume is cumbersome and practically impossible for the external examiners.		

P. Quality of d skills, with rticular reference to see at the top, middle bottom of the range in BSc year 2 Applied Pharmacology, Section A marks were noticeably better thar Section B. In all programmes, mean marks may be noticeably lower for some modules. There will be a number of possible reasons for these variations in quality of performance, so long-term analysis of patterns across several examination diets and student cohorts is recommended to identify causes, consequences and potential remedies for these variations. The Gateway Programme examiners noted that the spread of marks was right or left skewed in some questions. For example, IGE and AH1 were left skewed, indicating that there were quite a few students who struggled with these modules. The problem may be attributable to the simple arithmetic requirements in these questions. On the other hand, TMA was right skewed, with average mark for TMA1 of 66%; this question was not dependent on arithmetical ability. Our interpretation is that the arithmetical issue is a problem that needs to be solved as it evidently disadvantages some students. One simple solution may be to change the order of questions on the exam paper, and not placing all the arithmetical questions together as a panic- inducing block. In discussion with the Gateway students and the same trends could be seen in BSc1 answers. On the whole, there was no statistical difference between the Gateway and BSc1 marks.	and our Learning Technology team are developing online tutorial material using authentic and relevant (laboratory/field) problems to work through different types of calculations. It is hoped that this will be offered to all students entering the programme in 2020 with a pilot version for 2019 entry. Great emphasis is put on the importance of calculations and several directed learning sessions (small group problem solving) are focused around the sorts of problems students may encounter when conducting laboratory or field experiments. Additionally there is a workshop dedicated to calculations in first year and there is a recap session in second year, as well as one to one (or small group) support available for all students via our Education Development team. For	Ongoing There continue to be timetabled opportunities to develop numeracy and Learning Support team are aware of the short fall. Unfortunately the "Learning Sciences" software was not purchased in the last budget will be applied for 2020-21	Complete Learning Sciences subscription for 2020-21 Grateway students will havition additional support 2020-21
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		tutorial leads to ensure that students have opportunity to discuss and develop their numeracy skills. Gateway, first, second, third year leaders to encourage students to reflect on exam performance and seek help from ED before the start of the second examination period Action Deadline:	
		01-Jun-2019	
		Action assigned to:	
		Course Director, year leaders, tutorial leads	
2.3 Please provide any additional comments and recommendations performance	In a number of instances, the poor handwriting of students in exam scripts was noted but it is unclear to us if there is a formal strategy for handling illegible scripts. This should be considered since illegibility of student responses can add considerable work to the assessment process. For example, if more than 1 in 5 words are illegible then a student could be called in to transcribe their answer prior to marking.	We thank the External Examiners for this observation and agree that over the past few years handwriting skills have declined, probably due to relatively less handwritten work now we have gone paper free. Course Director will discuss the possibility of asking students to transcribe their work. This may be challenging due to the short turnaround time for papers to be marked Action Required:	
		Course director and Exam Board Chair to discuss with Examination Officers	
		Action Deadline:	

01-Mar-2019

Action assigne

has selected "yes" on the form. It may be worth considering additional actions such as moderating an expanded sample of scripts if more than two discrepancies are noted. This would provide additional assurances for individual students to whom a difference of a few % could make a very significant difference.

The objectivity of the marking scheme for essays is not always evident and including more MCQs and FIBs to increase the validity and robustness of the assessment may be a future alternative to the majority of long answer / essay questions. We observed in several instances that the words used by the examiner to summarise the essay standard ("very sound answer", "quite good answer", "excellent account" etc) and the grade awarded did not line up with the common grading scheme descriptions (for example, an "excellent account" attracted a mark of 65%). While this may not be a systemic issue (most markers' comments were in line with the marks awarded), it is a concern because of the heavy reliance on essays in every module

examiners) was completely absent at the end of a long answer / essay script. These deficiencies must be corrected to facilitate the quality assurance of the assessment process and to aid feedback to students.

A particular issue was noted in the Principles of Pathology paper 2: the absence of scale bars on pathology images, when students were required to comment about organ/lesion size for defined marks within the marking scheme, clearly disadvantaged all candidates. This necessitated adjustment of the marking scheme – but only after intervention of the external examiner at a very late stage; we were surprised that the issue had not been addressed earlier. officer to also include instructions to ensure that these comments are legible! It is noted that some examiners provide their written comments on a sticker. Although this may be time consuming to set up it may be helpful where handwriting is a known issue

Action Required:

course director will highlight the need for legible comments from examiners on scripts and will ask colleagues for their ideas on how to achieve this during our course management committee meeting exams office will add the need for comments to be legible to the instructions for examiners chair of exam board and exams officer to ensure that all figures and tables used in p

in course assignments and exams are within the guidelines. It is hoped that this ensures parity between different forms of assessment at the same level. The work load allocation model also takes assessment time into account and so also offers valuable insight into the marking load for individual modules and courses. Module leaders and year leaders will be reminded to use the Assessment Tariff when designing new assessments Regarding release of titles for ICA to External Examiners, the exams officers will be asked to provide this information to enable more effective scrutiny

Action Required:

Exams office to remind module leaders to utilise the Assessment Tariff when designing different types of assessment. Where their assessment doesn't fit with those described in the document they should seek advice from the Academic Registrar. Course Support team and Exams officers will be asked to provide the titles of summative in course assessments and provide them on the spreadsheet alongside marks and student information

Action Deadline:

01-May-2019

Action assigned to:

exams officers; course support

my duties	in the short time-frame of their visit. For example, bundles of scripts could be pre- prepared with samples from high- medium- and low-performing candidates already selected and identified. IT access continued to be a major limiting factor for us this year. We request that dedicated, secure computers, with log-in done in advance, are available for us to review all on-line materials. For the BSc programmes, exam scripts and projects were available but the full-range of in-course assessments was not available.	tireless work. We will endeavor to ensure that high - medium - low scripts and ICA are made readily available either in paper or electronic format and that there are enough computers available and accessible for you to carry out the sampling. In general, the Exams Office does not give External Examiners a batch/sample of scripts, instead they are provided with a range of scripts Action Required: Exams office to work with course support and IT to ensure access for External Examiners during the visit. To make available online course work and projects as well as low - medium and highly marked scripts from each question / module exam Action Deadline: 01-Jun-2019 Action assigned to: exams officer; course support team; IT		that they required. Will need to be reviewed post-COVID if we return to paper scripts
Question 1.2 Learning objectives, and the extent to which they were met	External Examiners comment Gateway / BSc1 / BSc2 - The learning objectives addressed by a particular examination question were not always stated in guide answers. This was also noted in 2017.18 and it would be an enhancement if this could be achieved for all quted	CD	Update in 2019/20	

1.2 Learning objectives, and the extent to which they were met

Overall - We note that there is access to course handbooks online and that the college has gone paper-

2.2 Quality of	For BSc 1 and especially Gateway, the	students resitting TEW module. College response: b. EWI has now been split into two 15 credit modules. Although the LOs, content and in course assessments will remain similar this means that there will be two separate papers. It is hoped that this will reduce the numbers of students needing to resit the papers (students are only allowed 15 credit qualified fail in BSc year 2, so EWI was not eligible as a qualified fail) • For these cohorts it would be of value to formally record possible reasons for this. College response:	
		value to formally record possible	
2.2 Quality of and skills, with particular reference to those at the top, middle or bottom of the range	For BSc 1 and especially Gateway, the arithmetic component of questions continues to be a struggle for some students.	College response: a. Numeracy continues to be a concern and staff will continue to	

		Module and the Animal Husbandry Module. Also, to run a series of drop-in sessions to address the problems of specific students. (Deadline: April 2020) Module Leaders and Year Leaders to ensure that all examination questions are mapped to specific learning objectives. (Deadline: April 2020).		
2.2 Quality of and skills, with particular reference to those at the top, middle or bottom of the range	The examiners noted that, overall, the exam marks achieved by the Gateway students were very similar to those taking the BSc 1 exams. However, that there was a noticeable discrepancy in performance between Gateway students and BSc 1 students in terms of the IGE marks (Gateway median was 26.6% compared with 37.5% for BSc 1) and that there were 14 fails among the Gateway cohort. The reasons for this difference were possibly caused by the numeracy issues mentioned above.	College response: b. Discrepancy of IGE marks between Gateway and BSc1 students is of some concern. Students will be reminded of additional support available through Education Development (Gateway Leader, IGE Module Leader)	Completed Please see comments above regarding Science Development and Communication initiative with Gateway students to provide extra support Additionally the RVC has now subscribed to Learning Sciences for 2020-21 which includes simple laboratory calculation quizzes to encourage students to develop their numeracy	
2.2 Quality of and skills, with particular reference to those at the top, middle or bottom of the range	For BSc 1, some aspects of in-course assessment resulted in very high grades this was particularly apparent for IGE and TMA. The assessments therefore may not have been effective in discerning depth of knowledge, may have simply indicated compliance by students to a task, and also are in danger of giving false comfort to students' over underperformance in the exam. In some contrast, for the BoC module (in which there were a number of qualified fails) the course assessment grades were mostly in the 2ii – 3rd class bracket. For BSc2, all but one student achieving a 1st class classification did so on the basis of an overall year mark in the low 70%. It is	College response: c. We would like to thank the External Examiners for this observation. Brief analysis has been carried out on year marks for each graduating cohort for several years and confirms this finding that most Firsts are in the low to mid 70% range in each year of the course. This may be due to the breadth of modules covered, large range of different styles of in course and examination assessments and the weightings that are given to each component of each module within the programme. Increasing the weighting of ICA would likely increase the overall module scores	Completed	

probably linked to the noticeably lower grades for some modules (as described above). Examiners were not able to see how this compares to previous years, and this long-term analysis would be helpful. Additional long-term analysis of patterns

3.2 Extent to which assessment procedures are rigorous For Gateway/ BSc1 /BSc 2 - Examiners observed modules

	was ~9-10 projects that had a 20%+ difference in marker one vs marker two. A simple agreement in this case is not fair on the student as it likely leads to a middle point being picked. It might be worth considering a sliding scale, where by up to a 10% difference can be rectified between examiners. However, 10%+ difference would benefit from a third marker as there would a clear difference in the fundamental scientific opinion of the two examiners at this gap. I understand there is a moderation procedure in place, however it may not be fair on the staff involved or the student in cases where the gap between examiners is so large	introduced the use of a 'facilitator' to ensure that, where the two markers differed across a grade boundary and their marks were not adjacent, an experienced academic was ask to ensure appropriate justification of the agreed mark was documented. The use of a third marker is not something the College uses as this could potentially lead to three disparate marks. Ensuring parity between markers will be discussed with Learning and Wellbeing as part of ongoing staff and examiner training		
3.4 Standard of marking	One area for concern is in the consistency of feedback style and quality. This is summarized as follows: For short answer questions / problem- solving questions: Some markers used pen which was the same colour as the candidate's and one marker is using pencil (not legible). Some markers consistently assign one tick per mark, while others pepper the page with ticks and then assign a score which doesn't link up with it. Some markers used crosses for incorrect answers and one marker struck through the actual text. Aside from this wide variety of marking style there is also a variable level of annotation of scripts with comments to help explain marks. A consensus should be reached on style to maximize value to the students.	College response: ai) Thank you for highlighting these inconsistencies in annotation. Will consult with Exams Office to see ensure that appropriate guidance is given within marking packs. The Directorate of Learning and Wellbeing will also ask to consider including appropriate training in the College's Inset Day. (Course Director, Directorate of Learning and Wellbeing, Exams Office)	Completed Guidance is given to examiners on suitable annotations that are consistent with marking scheme	
3.4 Standard of marking	A further observation concerned the allocation of marks within short answer questions – sometimes this had not been decided at the time of question setting and notes had been made by markers at the time of marking on guide answers concerning the allocation of marks. As an	aii) Thank you for highlighting these discrepancies, the allocation of marks for parts of questions within the question itself and how they are allocated alongside the model answer is required at the question setting stage but this can be re-	Completed Guidance is given to examiners on ensuring marks are suitably allocated and this was highlighted for scrutiny at exam paper setting meetings	

	additional thought, examiners felt it would be of merit for question setters to consider always indicating to students within the body of the question (if more than one part to it) as to how the marks would be awarded	iterated in guidance to question setters. Questions that are lacking in allocations of marks or are insistent should be highlighted at the paper setting meetings and	
	 naturally some questions already do this when broken down into parts a, betc. 	returned to the author for rewriting. (Year & Module Leader, with assistance from the Exams Office)	
3.4 Standard of marking	For coursework: There was some really very good / excellent feedback offered on coursework. A particularly good feature of some markers' feedback was a section on 'Things you could do to improve this work'. However overall, examiners observed a wide range in the style with which feedback is delivered (tracked comments in word/pdf files; excel tabulated, listed within the online system, listed+categorized in some way within the online system etc.). This variability may affect the use that the student can make of the feedback and may also lead to confusion in the student body as a whole. It may be that students get greater benefit from tracked comments but that the online system makes more difficult for some assessors to implement. In some instances examiners awarded a first-class mark and did not give any real justification – for example, 'excellent abstract' as the only	assistance nom the Exams Onice)	

	scheme itself.		
3.4 Standard of marking	For the BSc 2 project, it was noted that several assessors arranged their feedback comments accordiq5	I	I

	farm placement. The discrepancies appeared to relate to the expectations of the difference markers, some of whom appeared to award low marks (i.e. 35 – 40%) while others awarded marks in the 80% range. Although these marks had been moderated, it was often very difficult for the external examiner to understand why such a wide discrepancy existed. It would be worth trying to analyse these results in more detail to see whether this impression was correct.	was shared over a wider range of staff than in previous years. Gateway leader is planning to flag this with the module leader to gather her comments and suggestions in advance of the 2020 laming period. (Gateway Leader)	
3.4 Standard of marking	For essay-based questions (year 3 and 4): The biggest area for concern was across the modules for yr3/4 was the lack of a common system for denoting when a mark(s) are awarded. For students reviewing their scripts should they need to following failure of an exam, this is problematic. Likewise there were a number of examples where marks had initially been summed incorrectly. However, this would not be an issue if a consistent approach was used. Within modules the extent of feedback was still variable – often the feedback did not directly relate to the points expected within the model answer provided with exam questions. Finally, there were some instances where the written comments did not tally with the marks provided, e.g. an examiner commenting 'excellent and excee		

Complete: module handbooks were sent. Module leaders were available (via Teams) if EEs needed to contact them		
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3.5 In your view, are

4.4 I was able to scrutinise an adequate work and marks to enable me to carry out my duties Over all years - We note a comment from the 2017.18 examiner report - "For example, bundles of scripts could be preprepared with samples from high- mediumand low-performing candidates already

Collaborative Report

COURSE DIRECTOR: Dr Charlotte Lawson

more suitable for these students. It is also possible that the cohort of students has a generally higher level of ability than those of previous years.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

The IGE module leader has worked hard with other question setters on the module to ensure that the framing of the questions within the exam paper are not ambiguous in any way, without reducing the academic quality of the questions.

It is also worth noting the increased marks for the "Integrated Physiology 1" module, which rose from a median score of 52.5% in 2019 to 68.34% in 2020. The reason for this is not immediately obvious, but it may be worth focusing on this outcome to see whether there are any clues that could be exploited in future courses **COURSE DIRECTOR: Dr Charlotte Lawson**

Course Director Response:

Integrated Physiology 1 paper was sat under Extraordinary Regulations which may account for some of the increase in median score

It was clear from the coursework and library projects that many of the students tackled their essays enthusiastically, and some produced work of an exceptionally high standard. I (WVH) was especially impressed with one essay that described non-genomic impacts of sperm components, such as microRNAs and phospholipases, that induce post-fertilisation effects on embryonic development. This was a highly topical essay with references to recent publications and was almost of a publishable standard. **COURSE DIRECTOR: Dr Charlotte Lawson**

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Course Director Response:

We thank the EE for this observation and agree that we have some very dedicated and talented students

As in previous years the students did well in the animal husbandry module (median 75.01%), possibly reflecting their level of interest and existing knowledge of the subject.

As part of their course, the Gateway students have to spend some time on a farm during the lambing season and then write a broadly based analytical account of their experience. Although their reports are of generally good quality, the writing exercise highlights differences in the students' abilities as final marks ranged between about 45% and >80%. The markers provided consistently good and helpful feedback and explained where marks were lost or gained.

BSC1 -

There were more 1st class marks awarded this year than last.

It is noted that overall performance in the IGE module continues to be poor relative to other modules (13 qualified fails and 4 fails). It could be that this performance is due to the students settling in to University, although it could also reflect the way in which they are engaging with this module's specific content / style of teaching. Having said this, the median exam mark of 40% is a slight improvement on last year BSC1 median (37.5%).

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

(as for Gateway) the IGE module leader has worked hard with other question setters on the module to ensure mt the framing of

Please comment, as appropriate, on:

3.1 Assessment methods (relevance to learning objectives and curriculum)

Due to COVID-19, BSc1 and Gateway assessments are formative only and all students progress to year 2. In all programmes, there is a good range of assessment methods; this variety provides students with several ways to demonstrate their knowledge and there is no reliance on a single method of assessment. This is in line with the sector.

The heavy reliance on the essays seen in previous years appears to become less which we welcome. BSc Comp Path and other courses: A continuing move towards full online assessments would eradicate a few remaining issues with poor handwriting (students as well as markers occasionally) in short answers questions and project write- ups.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for these positive comments

We are using remote proctoring software for MCQ/SAQ/PSQ and OCM dropbox for essay style papers (BSc3 only) this year. If successful then this assessment style could persist beyond COVID- related changes to the examinations

3.2 Extent to which assessment procedures are rigorous

For BSc 1 and 2, we note previous examiner steer to analyse marking according to marker. This was being investigated but the outcome of these analyses is not known to the examiners. We note that for pre-COVID exams the moderation / sample marking was working effectively.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

Analysis of individual markers was not carried out in 2019-20, with electronic marking now in place this may be more straightforward in the future

The procedure for exam script scrutiny was effective.

Due to COVID-19, some assessments were only 1st-marked (except summative Jan exams for BSc2). COVID-19 will have substantially impacted on Gateway, BSc 1 and 2 student learning, and it seems likely that it will continue to be felt in the subsequent years by some students. This will need to be monitored and mitigated where possible.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

This is definitely something that the BSc leadership team are aware of and are mindful of "gaps" that may need to be plugged. Because of the timing of the Pandemic at the end of the term 2 these are largely analytical and practical research skills rather than knowledge gaps.

BSc 3. There is a clear and robust process in place to distinguish those top tier students from the rest of the cohort. There is a mechanism to reconcile differing marks and this is fair to the student in its outcomes. The quality of feedback on both project reports and module exams is good and staff should be pleased with this. COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

This practice is to be highly commended and it enabled the external examiners to easily identify where and why marks were assigned for an individual answer. Where there was disagreement between the first and second marker, the disagreements were discussed and a consensus mark awarded.

commended on the detailed feedback provided; this was helpful as an external examiner to understand why there were discrepancies in marks between the markers, and the constructive nature of the feedback will be of benefit to the students.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for this observation and will pass on to MSci examiners

3.3 Consistency of the level of assessment with the Framework for Higher Education Qualifications

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for this comment and will aim to provide guidance to staff and students on how this component of the marks should be awarded

MSci -

A high standard of marking was noted, with detailed feedback provided. There was substantial discrepancy in marks in at least one case between markers; interrogation of the feedback gave an indication of why these differences existed and I was satisfied the final mark awarded was fair in these cases.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for this observation and for interrogating the feedback given to be able to reassure us that a fair mark was agreed upon in this case

3.7 Please provide any additional comments and recommendations regarding the procedures

No further comments.

4.1 Comments I have made in previous years have been addressed to my satisfaction

Yes

Additional comments, particularly if your answer was no:

4.7 The standards set for the awards are appropriate for qualifications at this level, in this subject

Yes

Additional comments, particularly if your answer was no:

4.8 The standards of student performance are comparable with similar programmes or subjects in other UK institutions with which I am familiar

Yes

Additional comments, particularly if your answer was no:

4.9 I have received enough support to carry out my role

Yes

Additional comments, particularly if your answer was no:

If you have identified any areas of good practice, please comment more fully here. We may use information provided in our annual external examining report:

5.1 Do you have any suggestions for improvements based on experience at other institutes? We may use information provided in our annual external examining report:

The clarity and detail of feedback for students for their project work in BSc Comp Path is commendable. Consistency of feedback and alignment to the common marking scheme is very good for BSc 1 library projects. Further value would be derived from annotations on work.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for these observations and positive comments and will pass these on to the Bioscience examiners. The team will continue to look at the opportunities for providing annotations on electronically submitted written work whilst maintaining anonymity of marking

Projects, both 30 and 60 credits for the students undertaking a BSc 3. The opportunity afforded to students to gain a very in-depth understanding of the topic is to be commended. Immersive learning experiences like this are essential to producing high quality graduates.

COURSE DIRECTOR: Dr Charlotte Lawson

Course Director Response:

We thank the EE for these very positive comments

5.2 External Examiner comments: For College information only (Responses to External Examiners are