

The University of Edinburgh

Internal Periodic Review

School of Biological Sciences

UG & PGT

14th, 15th & 17th March 2022

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Executive summary

This report comprises the outcomes from the internal review of UG & PGT provision in the School of Biological Sciences.

The review team found that the School has effective management of the quality of the student learning experience, academic standards, and enhancement and good practice.

The report provides commendations on the School's provision, recommendations for enhancement that the School will be asked to report progress on to the Senate Quality Assurance Committee and suggestions on how to support developments.

Key Commendations

The review team commended the School for the passion for teaching and learning & dedication of its staff, its focus on the scholarship of learning & teaching, its commitment to the student experience and the importance it places on student support. Further commendations are included in the report.

Key recommendations

The top three recommendations identified by the review team for the School to prioritise were:

- **Increased integration of Quality Assurance practices in overall management and delivery of learning & teaching**
- **Review and enhancement of assessment & feedback practices across taught provision**
- **Review and enhancement of teaching allocation processes to improve effectiveness**

Commendations, recommendations and suggestions

Commendations

Key strengths and areas of positive practice for sharing more widely across the institution.

No	Commendation	Section in report
1	The review team commends the School on the clear passion for teaching and learning and commitment of its staff which was evident in all meetings across the review.	1
2	The review team commends the School on the emphasis it is placing on the Scholarship of Learning and Teaching and the work they are doing to enhance this.	2.1
3	The review team commends the significant work that is ongoing in the development of the School's new Undergraduate curriculum.	2.1
4	The review team commends the School for the positive student experience it is providing across its undergraduate and postgraduate taught provision.	2.3
5	The panel commends the very active student societies and peer networks (e.g BioSoc, BioPALs and BioBuddies) for the clear positive impact they make to students' time at Edinburgh.	2.3
6	The passion and commitment of the personal tutors and student support staff is evident, and the panel commends the blend of academic advice and pastoral support valued by both students and staff.	2.3
7	The panel were particularly impressed by the excellent pastoral follow up with students who make requests for extensions. This is appreciated by the students, and the panel commends this example of best practice.	2.3
8	There is a culture of openness and willingness to regularly seek suggestions and feedback from students. The panel commends the School for its commitment to practice in this area.	2.4
9	The panel commends the School's commitment to the application of the University's Accessible and Inclusive Learning policy, and the work of the Teaching Discrimination, Sensitivity and Inclusion group.	2.5
10	The panel commends the work of the technical staff who are dedicated to the job and committed to providing high quality experiences in the labs.	2.7
11	The panel commends the School for its active use and promotion of discussion boards in Learn.	2.8

Recommendations

Areas for development and enhancement – progress to be reported.

Priority	Recommendation	Section in report	Responsibility of
1	The panel recommends increased integration of quality assurance practices within School governance as well as within the overall management of learning & teaching.	3	School
2	The panel recommends that the School place a particular emphasis on the review and	2.2	School

	<p>enhancement of assessment & feedback practices across its taught provision and takes action on the following:</p> <ul style="list-style-type: none"> • In line with practice elsewhere, introduce an assessment tariff with guidance for staff and students on expected student effort for assessment. Use this tariff to manage expectations and maintain a shared understanding of expectations. • Increase the practice of mapping assessments across programmes even for honours years & Postgraduate programmes involving electives to identify pinch points. Furthermore, strengthen the mapping of assessments to programme level Learning Outcomes to leverage the potential for streamlined approaches to assessment • Increase student engagement with and understanding of the Extended Common Marking Scheme, in particular the expectations of the grade bands and marking rubrics where they are used. • Consider enhancing and optimising the use of technology to support and facilitate assessment & feedback and increasing staff support in this area via additional Learning Technology staff resource. • Review moderation practices and guidance, benchmarking them across the College, wider University & the sector. • If feedback is delayed for whatever reason, students must be told prior to the deadline. 		
3	<p>The review panel recommends that the School considers the effectiveness of current teaching allocation leadership and practices to make the distribution of teaching workload more equitable across the School. Furthermore the School should consider how the allocation process can be more responsive to unforeseen circumstances such as staff changes.</p>	1	School
4	<p>The panel recommends that the challenges the School is facing as a result of levels of approved extensions be taken into consideration by the current review of the Extensions & Special Circumstances policy.</p>	2.3	Academic Services
5	<p>The panel recommends that the School continues its commitment to improving accessibility, inclusivity and widening participation and takes the following actions:</p> <ul style="list-style-type: none"> • In consultation with the University Widening Participation team explore the investment needed to make 	2.5	School

	<p>improvements in the support offered to widening participation students. This should include consideration of a Widening Participation Officer role at School level, as well as identifying further resourcing and funding requirements needed to enhance engagement with this student group.</p> <ul style="list-style-type: none"> • In collaboration with the College of Science & Engineering, continue to engage with the University's current work to improve the quality and accessibility of student data and its effective use at all levels within the School. This should include involvement in College led working groups and engagement with the University level data task group and its outputs. • Improve formal connectivity between the School's Equality Diversity & Inclusion Committee and the management of Learning & Teaching by reinstating a standing member of the EDI Committee on the Learning & Teaching Committee. • Build upon the small research project into widening participation student disengagement by connecting with others across the University who have conducted research in this area, and consider applying for relevant funding to support this work for example the University Principal's Teaching Award Scheme. 		
6	<p>The panel recommends the School takes the following actions with regards to student projects:</p> <ul style="list-style-type: none"> • the introduction of a mandatory minimum number of projects to be proposed by all academic staff, • continuation of a diverse offer including non-lab-based options, • a review of student project financing as this appears to be problematic and a potential barrier to project proposal. 	2.1	School
7	<p>The panel recommends that the School consider the feedback the panel received from student representatives as part of their upcoming Student Voice review, and explores how best to help students see the actions being taken and have greater understanding of the context they sit in.</p>	2.4	School
8	<p>The panel recommends better and more consistent integration of technical staff in teaching planning and design, and increased</p>	2.7	School

	representation for this group in relevant School governance mechanisms.		
9	The review team recommends that the School: <ul style="list-style-type: none"> clarify the student support structure with students to improve consistency and avoid duplication of effort when dealing with student cases consider whether a review is needed for the process of submitting and recording enquiries as well a guidance for colleagues regarding who responds to what. 	2.3	School
10	The panel recommends that the Head of School works with the University's Director of Estate Management and the College of Science & Engineering to address the estate concerns relating to the delayed Darwin Building renovation and access to adequate School specific social space.	2.8	School

Suggestions

For noting – progress reporting is not required.

No	Suggestion	Section in report
1	The review panel suggests that the School continue to review the sustainability of its programmes and courses in light of student enrolment numbers and in line with new curriculum development.	1
2	The panel strongly suggests that the University Curriculum Transformation Programme (CTP) provides the School with opportunities to share its learning from the new curriculum development.	2.1
3	The panel suggests that the School connects more with students on the further development of the new curriculum.	2.1
4	It was noted that some PGT students would welcome more provision of projects in Human Genetics and the panel suggests the School consider the possibility of this for the future.	2.1
5	The panel suggests that the School consider the impact the flipped classroom model has on overall student workload, especially if this type of practice is to continue.	2.1
6	The panel suggests that the Student Support Project provides the School with opportunities to share its good practice with the programme when considering implementation.	2.3
7	The panel suggests that the School engage with similar external e-portfolio practice in the discipline, for example the current portfolio model at the University of Birmingham.	2.6
8	The panel suggests that the School works with the University and the College of Science & Engineering to address the estate concerns regarding access to dedicated School specific social spaces for staff and students.	2.8

Section A – Introduction

Scope of review

Range of provision considered by the review (see Appendix 1).

The Internal Periodic Review of the School of Biological Sciences in 2021/22 consisted of:

- The University's remit for internal review (see Appendix 2)
- The subject specific remit items for the review:
 - Student and staff workloads, assessment of students, and their realistic ability to take ownership of their education.
 - Inequalities in awards, attainment and learning.
- The Reflective Report and additional material provided in advance of the review
- The meeting of the review team including consideration of further material (see Appendix 3)
- The final report produced by the review team
- Action by the School and others to whom recommendations were remitted following the review

Review Team Members

Dr Nina Morris – Review Convenor, Senior Lecturer in Human Geography, School of GeoSciences

Professor Jon Green – External Reviewer, Deputy Pro Vice Chancellor (Education), University of Birmingham

Professor Momna Hejmadi – External Reviewer, Associate Dean (Learning & Teaching), Faculty of Science, University of Bath

Dr Emma Wild-Wood – Internal Reviewer, Director of Postgraduate Studies, School of Divinity

Ana Deligny – Student Reviewer, MSc Student, School of Informatics

Olivia Eadie – Review Administrator, Head of Operations & Projects, Institute for Academic Development

The School

The School of Biological Sciences is one of seven Schools in the College of Science and Engineering.

Physical location and summary of facilities

The School of Biological Sciences is spread across the Kings Buildings and Little France campuses, with one Principal Investigator based in the Central area. Within the Kings Buildings campus the School is spread out across seven buildings, some of which are shared with other Schools.

The teaching administration is primarily located within the James Clerk Maxwell Building, with some administrative support in the Ashworth Laboratory. All specialised teaching spaces, e.g., practical teaching laboratories, are located in Ashworth Laboratories, Daniel Rutherford Building, Peter Wilson Building and James Clerk Maxwell Building. Lecture, workshop, and tutorial spaces are spread across the Kings Building campus and can occur in any spaces within the campus.

There are ongoing plans to renovate the Darwin Building (restarted post pandemic) and the School will also gain access to the new Kings Buildings Nucleus upon its completion.

Date of previous review

The previous review took place on the 10th & 11th March 2015.

Reflective Report

The Reflective Report was prepared within the School of Biological Sciences by:

- Dr Patrick Walsh, Director of Teaching
- Dr Ramon Grima, current Associate Director of Teaching for Quality Assurance
- Dr Nick Savill, past Associate Director of Teaching for Quality Assurance
- Dr Ann Haley, Academic Administrator
- Professor Heather McQueen, Associate Director of Teaching for Scholarship of Learning and Teaching
- Dr Nadia Tuzi, Senior Academic Tutor
- Rona Lindsay, School Recruitment Officer,
- Holly Pantidos, Recruitment and Employability Manager

Consultation with staff was sought through the School's Learning and Teaching Committee (LTC) and open invitations for staff contribution at an "All Staff" meeting. Student involvement was sought at weekly staff-student forum meetings.

Section B – Main report

1 Strategic overview

Portfolio and student intakes

The School of Biological Sciences offers Undergraduate programmes up to Bachelors level with the majority of students entering on either the BSc Biological Sciences programme or the BSc Biological Sciences with Management programme. After second year students diversify into the 12 specialisations that make up the degrees awarded, each of which are also offered “with Management”. Nine degrees are also offered as a BMedSci for those studying medicine, and three are offered as VetSci for those studying to be Vets. At Postgraduate level the School offers 13 one year MSc programmes, one of which is delivered in collaboration with the Royal Botanic Gardens. The School is currently discussing collapsing all 12 UG “with Management” options into one programme due to “with Management” attracting only a small number of students, in the hope that this increases its effectiveness. The panel are supportive of this.

Recruitment and conversion rates have been stable for the School over recent years, although there have been higher UG student intakes than forecasted for the last two years as an impact of the pandemic. Plans are in place to maintain target UG intakes for next academic year but to execute a planned increase in student numbers over the following three years. Postgraduate student intake has seen a steady growth over the last four years with numbers stabilising in academic year 2020/21. The School had previously reported low conversion rates for Widening Participation students but this has been corrected by more rigorous application of the minimum requirements and enhanced work with “feeder” Colleges to ensure that preparatory programmes provide sufficient training for entry. The School closed its two online Postgraduate programmes in 2018/19 due to ongoing low recruitment.

The review panel **suggests** that the School continue to review the sustainability of its programmes and courses in light of student enrolment numbers and in line with new curriculum development.

Governance

The School Executive Committee (SEC) is the key decision-making committee in the School and is chaired by the Head of School. All other School committees report to SEC.

Management of the School is separated into academic and professional services, with academic staff organised into the six research institutes. Each institute is led by a Head of Institute, who together line manage the majority of academic staff across the School. In addition, there are School level Directors for six key areas of activity including the Director of Teaching (DoT) who is the only one to have direct line management as part of the role.

Learning and teaching strategy is managed by the Learning and Teaching Committee (LTC), which oversees all taught programmes. It is composed of Associate Directors for various areas of activity and discusses, implements and reviews teaching policy. Since the last review the LTC has been expanded to include a Learning Technology Support Officer and the Associate Director for Scholarship of Learning and Teaching to ensure technical and pedagogical expertise on the committee.

The Biology Teaching Organisation (BTO) provides the course administrative support for teaching via two teams (UG & PGT). Technical support is also situated within the BTO, providing the technical support for practical classes and field trips, while student support provides the pastoral and academic learning support for all our taught students. The BTO also coordinates the employment of demonstrators and tutors.

The review team **commends** the School on the clear passion for teaching and learning and commitment of its staff which was evident in all meetings across the review. The review team particularly noted the efforts and contributions of the personal tutors, student support team, technicians and BTO. Furthermore, the review team were very impressed with the Learning & Teaching leadership team, particularly the work of Dr Patrick Walsh, the Director of Teaching, and Professor Heather McQueen, Associate Director of Teaching for Scholarship of Learning and Teaching.

Resourcing of teaching and learning for academic staffing of courses and programmes is managed by the Teaching Allocation Committee (TAC), a sub-committee of SEC which meets twice per year. The School uses a Workload Allocation Model (WAM) which is supplemented by School policy on expectations for staff contributions to teaching. Despite this there was a sense that teaching workload is not adequately distributed across the School. Staff reported particular issues with allocation for courses which are not “owned” by institutes, responsiveness of the committee when issues arise, and equity of project proposal and supervision across the School.

The review panel **recommends** that the School considers the effectiveness of current teaching allocation leadership and practices to make the distribution of teaching workload more equitable across the School. Furthermore, the School should consider how the allocation process can be more responsive to unforeseen circumstances such as staff changes.

2 Enhancing the student experience

2.1 The approach to enhancing Learning and Teaching

New Curriculum and Scholarship of Learning & Teaching

The review team **commends** the School on the emphasis it is placing on the Scholarship of Learning and Teaching and the work they are doing to enhance this. The panel were very impressed by the Learning and Teaching leadership team and encouraged by the School’s commitment to increasing the profile of this practice among its community.

The review team **commends** the significant work that is ongoing in the development of the School’s new Undergraduate curriculum. It is a large piece of work that has taken commitment, resourcing, and dedication especially in light of the delays caused by the pandemic. The panel welcomed the School’s open reflections on the process; its opportunities, challenges, and the lessons learned. The panel **strongly suggests** that the University Curriculum Transformation Programme (CTP) provides the School with opportunities to share its learning from the new curriculum development.

The panel were pleased to see good levels of student involvement in the new curriculum design prior to the pandemic. There were examples of design workshops, student projects leading to the creation of materials for first year, engagement with BioPals and seeking student opinion on graduate attributes. This has unfortunately been impacted by the pandemic and the panel **suggests** that the School connects more with students on the further development of the new curriculum.

Student Projects

The review team was pleased to see the range of student projects on offer at both Undergraduate and Postgraduate level. Students are happy with what is available, and it is very positive that most students get one of their top three choices. It was noted that some

PGT students would welcome more provision of projects in Human Genetics and the panel **suggests** the School consider the possibility of this for the future.

Via its subject specific remit item, the School asked the panel to consider staff workload alongside that of its students. The panel identified that the provision of student projects was a particular issue due to the uneven distribution of project proposal and supervision across the School. Through discussions it became evident that this negatively impacted both the academic staff proposing and supervising large numbers of projects, and the professional services staff who support the process of project allocation.

The panel **recommends** the School take the following actions with regards to student projects:

- the introduction of a mandatory minimum number of projects to be proposed by all academic staff, and an allocation model for fair distribution of staff workload through the LTC & TAC.
- continuation of a diverse offer including non-lab-based options,
- a review of student project financing as this appears to be problematic and a potential barrier to project proposal.

Flipped Classroom

The School noted that they have increased their use of the flipped classroom model during the pandemic and have successfully leveraged the opportunities it can offer. The panel heard from students that they can struggle with the balance of overall contact time with the use of recorded lectures. Students felt that it may take them longer to watch and absorb the material in a recorded lecture in preparation for a lab or tutorial than staff might anticipate. The panel **suggests** that the School consider the impact the flipped classroom model has on overall student workload, especially if this type of practice is to continue.

2.2 Assessment and Feedback

School specific remit item one asked the review to comment on student workload and the realistic ability students have to take ownership of their own learning. The review confirmed that contact time was appropriate to the disciplines and most importantly in line with the sector.

However, the panel found that assessment and feedback practices were impacting workloads for both staff and students. In various discussions there was general agreement that the School were over-assessing across both UG and PGT. There were general reflections that the pandemic led to good progress on diversifying assessment types, but that these have at times meant an increase in the number or frequency of assessments which is having unintended negative consequences. A challenge for the School is ensuring diversity of assessment alongside adequate formative assessment opportunities, while ensuring student engagement if activities are not summative.

There is varying practice across the School in terms of optimising technology to support and enhance assessment with a recognition that some parts of the School are further ahead on this journey than others. There is an appetite to engage with this further but challenges because of some of the functional limitations of the centrally supported digital platforms. There is also a staff overhead associated with the initial set up, integration and training as part of this work.

Finally, while the panel were pleased to see the work that had been done by the School since the last review to formalise guidance on moderation practices, there was some

concern from the panel about the level of moderation being applied and the result that this was having on staff workload associated with assessment. In addition, the panel heard from staff that the high number of permitted extensions under the new Extensions & Special Circumstances policy is making it very difficult for staff to meet the agreed marking deadlines, often creating pressure points and late feedback for students (see section 2.3).

As a result, the panel **recommends** that the School places a particular emphasis on the review and enhancement of assessment & feedback practices across its taught provision and takes action on the following:

- In line with practice elsewhere, introduce an assessment tariff with guidance for staff and students on expected student effort for assessment. Use this tariff to manage expectations and maintain a shared understanding of expectations.
- Increase the practice of mapping assessments across programmes even for honours years & Postgraduate programmes involving electives to identify pinch points. Furthermore, strengthen the mapping of assessments to programme level Learning Outcomes to leverage the potential for streamlined approaches to assessment
- Increase student engagement with and understanding of the Extended Common Marking Scheme, in particular the expectations of the grade bands and marking rubrics where they are used.
- Consider enhancing and optimising the use of technology to support and facilitate assessment & feedback and increasing staff support in this area via additional Learning Technology staff resource.
- Review moderation practices and guidance, benchmarking them across the College, wider University & the sector.
- If feedback is delayed for whatever reason, students must be told prior to the deadline.

2.3 Supporting students in their learning

The review team **commends** the School for the positive student experience it is providing across its undergraduate and postgraduate taught provision. The panel's meeting with students was positive and the School's efforts are generally appreciated by the student body. The panel were particularly impressed with efforts made to support student transitions into their degrees and identified the pre-sessional English courses offered to some international students as good practice. The panel also **commends** the very active student societies and peer networks (e.g BioSoc, BioPALs and BioBuddies) for the clear positive impact they make to students' time at Edinburgh.

Student Support

The School has a student support team that works in partnership with the personal tutor system, providing both academic and pastoral support for students of all years. The passion and commitment of the personal tutors and student support staff is evident, and the panel **commends** the blend of academic advice and pastoral support valued by both students and staff. There is evident knowledge exchange occurring, where staff are learning from students and their practice is enhanced via their acting as a personal tutor. In addition, some students create valuable peer groups with other students who share the same personal tutor which enhances their study. The panel identified both as examples of good practice.

There was clear concern among the personal tutor and student support staff community about the impact of the new student support model being implemented across the University, especially the removal of the current personal tutor role. The panel **suggests** that the Student Support Project provides the School with opportunities to share its good practice with the programme when considering implementation.

The small student group the panel met with during the review reported mixed experiences of the personal tutor system, and mixed levels of awareness of the student support team. The students felt that the quality of the personal tutor experience was dependent on the individual tutor and their approach, rather than consistent across the School. Personal tutors and student support staff also noted that on occasion multiple colleagues will respond to a student case in parallel especially when multiple queries have been submitted. The review team **recommends** that the School:

- clarify the student support structure with students to improve consistency and avoid duplication of effort when dealing with student cases
- consider whether a review is needed for the process of submitting and recording enquiries as well a guidance for colleagues regarding who responds to what.

Extensions and Special Circumstances

The panel were particularly impressed by the excellent pastoral follow up with students who make requests for extensions. This is appreciated by the students, and the panel **commends** this example of best practice.

The students the panel met with appreciated the ability to request extensions centrally, noting that they liked the online application and the speed of decision making. However, it was clear throughout the review that the volume of approved extension requests is a challenge for the School, especially the impact that it has on marking and feedback turnaround times. The panel **recommends** that this feedback be taken into consideration by the current review of the Extensions & Special Circumstances policy.

2.4 Listening and responding to the Student Voice

The School participates well with the expected methods for seeking out and engaging with the student voice. However, following the changes to the Student Voice policy the School intends to conduct a student voice and course feedback review which the panel supports.

The School conducts Student Staff Liaison Committees (SSLCs) once per semester for every year group and during the pandemic the Director of Teaching met weekly with student representatives. This practice has continued moving to bi-weekly frequency. It was evident that there is a lot of communication between staff and student representatives and a phenomenal amount of regular engagement with the student voice. There is a culture of openness and willingness to regularly seek suggestions and feedback from students. The panel **commends** the School for its commitment to practice in this area.

While it is recognised that the School has improved the minuting of SSLCs and the visibility of these minutes, there were some reflections from the students the panel met with that indicated more work could be done on closing the feedback loop. These student representatives reported not being told that actions had been taken and felt that activity happened “in the background”. The panel **recommends** that the School consider this feedback as part of their upcoming review, and explores how best to help students see the actions being taken and have greater understanding of the context they sit in.

2.5 Accessibility, Inclusivity and Widening Participation

School specific remit item two asked the review to consider inequalities in awards, attainment, and learning paying particular attention to the experiences of widening participation and BAME students. The School noted concern that while they are successful in the recruitment of widening participation students, there is less confidence in their ability to

support success throughout their programmes for this student group. In addition, while detailed data is limited, there is evidence of awarding gaps between white students and BAME students.

The panel **commends** the School's commitment to the application of the University's Accessible and Inclusive Learning policy, and the work of the Teaching Discrimination, Sensitivity and Inclusion group. There is a clear appetite among the staff community to engage, and a recognition that more work can be done. The panel encourages the School to continue its efforts in these areas and its good connections with the Race Equality Network and College of Science & Engineering working groups.

Data

Data is a particular concern for the School, with significant challenges to providing EDI data for the whole student cohort and a lack of confidence in the data provided. The panel saw evidence of this in the data supplied by the School for the report, and heard from staff about the difficulties they have faced in producing meaningful analysis from which to take action.

The School acknowledges that efforts are being made in this area by the College and the Senate Quality Assurance Committee, and continue to make changes while working within these data limitations. However, the School feels strongly that it cannot take the most effective response and measure its success without seeing improvements to the data landscape.

Widening Participation

The panel noted the School's concern regarding the levels of disengagement with study seen in widening participation students especially young Scottish students. Anecdotally staff reported good student engagement with this group when they were "in the room", but the challenge comes with ensuring that they come to campus and take up the opportunities on offer. The panel appreciated the small study that the School had undertaken to attempt to investigate and identify the point at which students started to disengage, although recognised that this study had limitations due to its size and difficulty in reconnecting with these students after becoming leavers. Staff expressed an appetite to do more but noted constraints due to workload and a lack of formal oversight and co-ordination of efforts within the School in this area.

The School takes particular efforts to assign specific experienced personal tutors to widening participation students in recognition that early positive interactions can make a significant impact to the student experience. Furthermore, it provides a specialised session during welcome week for widening participation students who are returning to education. Beyond that the standard systems of support are utilised. The panel met with one widening participation student during the review who shared their experience of lacking essay writing skills, and who felt they had to "catch up" with their peers in parallel with their programme of study. They noted that they would like more structured proactive support from the School and to have opportunities to connect with other widening participation students as a cohort, recognising their potentially different needs to the broader student body.

As a result of the above the panel **recommends** that the School continues its commitment to improving accessibility, inclusivity and widening participation and takes the following actions:

- In consultation with the University Widening Participation team explore the investment needed to make improvements in the support offered to widening participation students. This should include consideration of a Widening Participation Officer role at School level, as well as identifying further resourcing requirements needed to support enhancement initiatives.

- In collaboration with the College of Science & Engineering, continue to engage with the University's current work to improve the quality and accessibility of student data and its effective use at all levels within the School. This should include involvement in College led working groups and engagement with the University level data task group and its outputs.
- Improve formal connectivity between the School's Equality Diversity & Inclusion Committee and the management of Learning & Teaching by reinstating a standing member of the EDI Committee on the Learning & Teaching Committee.
- Build upon the small research project into widening participation student disengagement by connecting with others across the University who have conducted research in this area, and consider applying for relevant funding to support this work for example the University Principal's Teaching Award Scheme.

2.6 Development of Employability and Graduate Attributes

The School conducts a lot of work in this area including collaboration with the University Careers Service to deliver a successful calendar of School specific events. The panel noted the work of the School's Recruitment & Employability Manager Holly Pantidos, in particular the strong industry liaison and sourcing of postgraduate student projects.

As part of the new Undergraduate curriculum, the School has created e-portfolios which place the development of employability skills and graduate attributes at the centre of their programmes. A skills framework supports the portfolio, and it is intended that students will use them to demonstrate their abilities and reflect. The School has piloted elements of the e-portfolio and has received mixed feedback from students. The School reported good student engagement where the pilots were assessed, but where they were optional student uptake was poor. The small group of students the panel met with noted that the support for the e-portfolio was very good, but that more importance should be placed on them to increase student engagement. The panel supports the School's ambition in this area and encourages the School to continue the development and integration of the e-portfolio in the new curriculum. The panel **suggests** that the School engage with similar external practice in the discipline, for example the current portfolio model at the University of Birmingham.

2.7 Supporting and developing staff

Support for Teaching

As mentioned previously (section 2.1) the School is committed to the Scholarship of Learning & Teaching and this is further evidenced by the support and encouragement it gives to its staff engaged in professional development pathways (for example the Edinburgh Teaching Award offered by the Institute for Academic Development). The bespoke training programme "BESTA" open to all staff is a positive development, as are the "Teaching Community" meetings and the encouragement of peer-observation of teaching for all staff levels. The panel also felt that the training offered to tutors and demonstrators was particularly good, as it has an emphasis on practical strategies for effectively supporting student learning as well as how to respond to potential challenges in the classroom.

Technical Staff

The panel **commends** the work of the technical staff who are dedicated to the job and committed to providing high quality experiences in the labs. Significant efforts were made by this team during the pandemic to successfully support student experiences under covid

mitigations, and then to adapt and produce digital lab experiences when on campus learning was restricted.

Workloads for technical staff appear to be challenging with a sense that some practicals are trying to be too ambitious in the time allowed. While there was a shared appetite for early involvement of technicians at planning stage, there is currently varied levels of engagement and this differs most significantly between Undergraduate and Postgraduate with the PGT technician being heavily involved in weekly planning. Finally, there was mixed awareness among the team of the detailed impact of the changes to the physical estate and the new curriculum.

The panel **recommends** better and more consistent integration of technical staff in teaching planning and design, and increased representation for this group in relevant School governance mechanisms. The School should facilitate more opportunities for technical staff to share good practice in support of their professional development as part of the University's Technicians Commitment.

2.8 Learning environment (physical and virtual)

The panel **commends** the School for its active use and promotion of discussion boards in Learn. The students the review team met with were unanimously in favour of these boards, praising the engagement from both staff and students and viewing them as a valuable resource in their learning. The panel also noted the positive use of informal digital peer support networks via messaging apps like "WhatsApp", which the students have self-organised.

The panel were pleased to see details of the new Kings Buildings Nucleus development and to hear about the positive impact that this will have for the School. The social and teaching focussed student spaces are in alignment with the ambition for the new curriculum, and the development represents access to new space which is a benefit. However, while the Kings Buildings Nucleus is very welcome, it is shared space for all Schools across the campus. The unexpected delay and reshaping of the Darwin Tower development continues to be problematic for the School, and the School feels like it has little agency on the capital spend plans. The panel were particularly concerned with the School's access to dedicated School specific social spaces for staff and students as this seem to be problematic. The panel **recommends** that the Head of School works with the University's Director of Estate Management and the College of Science & Engineering to address these estate concerns.

3 Assurance and enhancement of provision

The School operates within the University's Quality Framework and the review team is confident that academic standards are high. The School's approach to setting, maintaining and reviewing academic standards is appropriate. Standards are continually reviewed through External Examiner reports, student feedback and annual monitoring.

Despite this, the panel agreed that the current annual quality assurance processes within the School are somewhat restrictive, and more could be done to make the most out of these reflective practices. The panel **recommends** increased integration of quality assurance practices within School governance as well as within the overall management of learning & teaching. The aim would be to see increased discussion of and engagement with quality assurance annual findings at a course and programme level, as well as dedicated discussions and mapping of progress on actions in Learning & Teaching Committee.

Appendices

Appendix 1: Range of provision considered by the review

Animal Breeding and Genetics (MSc) (Full-time)
Animal Breeding and Genetics (MSc) (Part-time)
Animal Breeding and Genetics (PgDip)
Biochemistry (BMedSci Hons)
Biochemistry (MSc)
Biochemistry (PgDip)
Biodiversity and Taxonomy of Plants (120/60 credits) (MSc) - 2 Years (Part-time)
Biodiversity and Taxonomy of Plants (60/120 credits) (MSc) - 2 Years (Part-time)
Biodiversity and Taxonomy of Plants (MSc)
Biodiversity and Taxonomy of Plants (PgDip)
Bioinformatics (MSc)
Bioinformatics (PgDip)
Biological Sciences (Biochemistry) (BSc Hons)
Biological Sciences (Biochemistry) with Management (BSc Hons)
Biological Sciences (Biotechnology) (BSc Hons)
Biological Sciences (Biotechnology) with Management (BSc Hons)
Biological Sciences (BSc Hons)
Biological Sciences (Cell Biology) (BSc Hons)
Biological Sciences (Cell Biology) with Management (BSc Hons)
Biological Sciences (Development, Regeneration and Stem Cells) (BSc Hons)
Biological Sciences (Development, Regeneration and Stem Cells) with Management (BSc Hons)
Biological Sciences (Ecology) (BSc Hons)
Biological Sciences (Ecology) with Management (BSc Hons)
Biological Sciences (Evolutionary Biology) (BSc Hons)
Biological Sciences (Evolutionary Biology) with Management (BSc Hons)
Biological Sciences (Genetics) (BSc Hons)
Biological Sciences (Genetics) with Management (BSc Hons)
Biological Sciences (IFP) (BSc Hons)
Biological Sciences (Immunology) (BSc Hons)
Biological Sciences (Immunology) with Management (BSc Hons)
Biological Sciences (Molecular Biology) (BSc Hons)
Biological Sciences (Molecular Biology) with Management (BSc Hons)
Biological Sciences (Molecular Genetics) (BSc Hons)
Biological Sciences (Molecular Genetics) with Management (BSc Hons)
Biological Sciences (Plant Science) (BSc Hons)
Biological Sciences (Plant Science) with Management (BSc Hons)
Biological Sciences with Management (BSc Hons)
Biological Sciences (Zoology) (BSc Hons)
Biological Sciences (Zoology) with Management (BSc Hons)
Biotechnology (MSc)
Biotechnology (PgDip)
Cell Biology (BMedSci Hons)
Development, Regeneration and Stem Cells (BMedSci Hons)
Drug Discovery and Translational Biology (MSc)
Drug Discovery and Translational Biology (PgDip)
Evolutionary Biology (BMedSci Hons)
Evolutionary Genetics (MSc) (Full-time)
Evolutionary Genetics (MSc) (Part-time)
Evolutionary Genetics (PgDip)

Genetics (BMedSci Hons)
 Human Complex Trait Genetics (MSc) (Full-time)
 Human Complex Trait Genetics (MSc) (Part-time)
 Human Complex Trait Genetics (PgDip)
 Immunology (BMedSci Hons)
 Molecular Biology (BMedSci Hons)
 Molecular Genetics (BMedSci Hons)
 Quantitative Genetics and Genome Analysis (MSc)
 Quantitative Genetics and Genome Analysis (MSc) (Part-time)
 Quantitative Genetics and Genome Analysis (PgDip)
 Synthetic Biology and Biotechnology (MSc)
 Synthetic Biology and Biotechnology (PGD)
 Systems and Synthetic Biology (MSc)
 Systems and Synthetic Biology (PgDip)
 Visiting Taught Collaborative MSc in Industrial Biotechnology (non UoE lead) (ICL) - 1 Ye
 Visiting UG Student in BIO - FY (ICL)
 Zoology (BMedSci Hons)

Drug Discovery and Protein Biotechnology (Online Learning) (ICL) (MSc) 2-6 years
 Immunology (BSc (MedSci) (Hons))- 1 Year
 Immunology BSc (VetSci) (Hons)
 Next Generation Drug Discovery (Online Learning)(ICL)(MSc) - 2-6 Years
 Next Generation Drug Discovery (Online Learning) (PgCert)(ICL) - 1-2 Years
 Next Generation Drug Discovery (Online Learning) (Pg ProfDev)(ICL) - 1-2 Years
 Zoology (BSc (MedSci) (Hons))
 Zoology BSc (VetSci) (Hons)

Appendix 2 – University remit

The University remit provides consistent coverage of key elements across all of the University's internal reviews (undergraduate and postgraduate).

It covers all credit bearing provision within the scope of the review, including:

- Provision delivered in collaboration with others
- Transnational education
- Work-based provision and placements
- Online and distance learning
- Continuing Professional Development (CPD)
- Postgraduate Professional Development (PPD)
- Provision which provides only small volumes of credit
- Joint/Dual Degrees
- Massive Open Online Courses MOOCs (even if non-credit bearing)

1. Strategic overview

The strategic approach to:

- The management and resourcing of learning and teaching experience,
- The forward direction and the structures in place to support this.
- Developing business cases for new programmes and courses,
- Managing and reviewing its portfolio,
- Closing courses and programmes.

2. Enhancing the Student Experience

The approach to and effectiveness of:

- Supporting students in their learning
- Listening to and responding to the Student Voice
- Learning and Teaching
- Assessment and Feedback
- Accessibility, Inclusivity and Widening Participation
- Learning environment (physical and virtual)
- Development of Employability and Graduate Attributes
- Supporting and developing staff

3. Assurance and Enhancement of provision

The approach to and effectiveness of maintaining and enhancing academic standards and quality of provision in alignment with the University Quality Framework:

- Admissions and Recruitment
- Assessment, Progression and Achievement
- Programme and Course approval
- Annual Monitoring, Review and Reporting
- Operation of Boards of Studies, Exam Boards, Special Circumstances
- External Examining, themes and actions taken
- Alignment with SCQF (Scottish Credit and Qualifications Framework) level, relevant benchmark statements, UK Quality Code
- Accreditation and Collaborative activity and relationship with Professional/Accrediting bodies (if applicable)

Appendix 3 Additional information considered by review team

Prior to the review visit:

- Reflective Report
- School Quality Assurance Reports:
 - 2020-2021
 - 2019-2020
 - 2018-2019
- External Examiners Summary reports:
 - UG
 - 2020-2021
 - 2019-2020
 - 2018-2019
 - PGT
 - 2020-2021
 - 2019-2020
 - 2018-2019
- Programme Handbooks:
 - UG Course and Programme Guides
 - PGT Programme Handbooks

- Programme specification information:
http://www.drps.ed.ac.uk/21-22/dpt/drps_bio.htm
- Statistical Reports UG
 - Data Report
 - Programmes UG
 - Courses UG
 - Awards UG
 - Progression Counts UG
 - Progression Rate UG
 - Course Pass Rate UG
- Statistical Report PGT
 - Data Report
 - Programmes PGT
 - Courses PGT
 - Progression Rate PGT
 - Course Pass Rate PGT
- School Graduate Outcomes Data
- Careers Service Support
- Students Studying Abroad
- National Student Survey (NSS) results 2021
- Postgraduate Taught Experience Survey (PTES) results 2021
- Student Staff Liaison Committee meeting minutes (previous academic year)
 - Year 1 November 2020
 - Year 2 November 2020
 - Year 3 November 2020
 - PG December 2020
 - Year 1 March 2021
 - Year 2 March 2021
 - Year 4 January 2021
 - PG April 2021
- University of Edinburgh Standard Remit 2021/22
- Subject Specific Remit
- Aims and skills for new curriculum

During the review visit

- Tutors & Demonstrators extract from the School of Biological Sciences Internal Periodic Review Postgraduate Research November 2021
- Student Feedback Summary for the School of Biological Sciences Internal Periodic Review UG & PGT March 2022
- School of Biological Sciences Moderation Guidance 2018
- The Evolved Model of Student Support – in a nutshell, April 2021
- Student Support Design, March 2022
- Kings Buildings Nucleus - <https://www.ed.ac.uk/estates/campus-development/kings-buildings/current-projects/nucleus-phase-1>

Appendix 4 Number of students

Undergraduate

Entry Programme Name	2015/6	2016/7	2017/8	2018/9	2019/20	2020/1	2021/2
Biological Sciences (BSc Hons)	0	169	199	205	208	193	306
Biological Sciences (IFP) (BSc Hons)		0	2	2			
Biological Sciences with Management (BSc Hons)	0	5	5	8	7	5	4
Development, Regeneration and Stem Cells (BMedSci Hons)		1		1			1
Immunology (BMedSci Hons)						1	
Immunology (BSc (MedSci) (Hons))- 1 Year		4					
Zoology (BMedSci Hons)			1				

Postgraduate Taught

Entry Programme Name	2015/6	2016/7	2017/8	2018/9	2019/20	2020/1	2021/2
Animal Breeding and Genetics (MSc) (Full-time)	0	7	5	3	2	1	3
Animal Breeding and Genetics (MSc) (Part-time)		1	0	0	0	0	0
Animal Breeding and Genetics (PgDip)		0	0	0	0	0	0
Biochemistry (MSc)	0	11	8	10	16	18	18
Biochemistry (PgDip)	0	0		0	0	0	0
Biodiversity and Taxonomy of Plants (120/60 credits) (MSc) - 2 Years (Part-time)					1		
Biodiversity and Taxonomy of Plants (60/120 credits) (MSc) - 2 Years (Part-time)				1	1	1	1
Biodiversity and Taxonomy of Plants (MSc)	0	19	14	14	10	18	15
Biodiversity and Taxonomy of Plants (PgDip)			0	0	0	0	0
Bioinformatics (MSc)	0	14	26	19	34	38	42
Bioinformatics (PgDip)	0	0	0	0	0		0
Biotechnology (MSc)	0	33	16	25	14	32	27
Biotechnology (PgDip)		0	0		0	0	0
Drug Discovery and Protein Biotechnology (Online Learning) (ICL) (MSc) 2-6 years		4	3	4	1		
Drug Discovery and Protein Biotechnology (Online Learning) (ICL) (Pg Cert) 1-2 years		0	0	0	0		
Drug Discovery and Protein Biotechnology (Online Learning) (ICL) (Pg Dip) 2-4 years		2					
Drug Discovery and Translational Biology (MSc)	0	19	14	12	13	20	11
Drug Discovery and Translational Biology (PgDip)				0	0		0
Evolutionary Genetics (MSc) (Full-time)	0	10	3	6	4	2	9
Evolutionary Genetics (MSc) (Part-time)		0	0		0		0
Evolutionary Genetics (PgDip)					0		0
Human Complex Trait Genetics (MSc) (Full-time)	0	0	2	1	3	3	3
Human Complex Trait Genetics (MSc) (Part-time)				0	0	0	0
Human Complex Trait Genetics (PgDip)			0	0			0
Next Generation Drug Discovery (Online Learning) (PgCert)(ICL) - 1-2 Years					1		
Next Generation Drug Discovery (Online Learning) (PgDip)(ICL) - 2-4 Years		0			0		
Next Generation Drug Discovery (Online Learning)(ICL)(MSc) - 2-6 Years		5	0	0	1		
Quantitative Genetics and Genome Analysis (MSc)	0	5	4	2	6	1	4
Quantitative Genetics and Genome Analysis (MSc) (Part-time)		0		0	1	0	0
Quantitative Genetics and Genome Analysis (PgDip)			0	0			
Synthetic Biology and Biotechnology (MSc)	0	13	9	16	18	17	16
Synthetic Biology and Biotechnology (PGD)		0	0		0		
Systems and Synthetic Biology (MSc)	0	9	4	4	5	3	5
Systems and Synthetic Biology (PgDip)			0	0	1		0