

UNIVERSITY OF GLASGOW

Academic Standards Committee – 4 October 2019

Periodic Subject Review: Review of MVLS Graduate School Animal and Plant Sciences, and Biomedical Sciences Clusters held on 14 June 2019

Dr Richard Lowdon, Clerk to the Review Panel

Review Panel:

Professor Frank Coton	Vice-Principal Academic Planning and Technological Innovation, Panel Convener
Professor Harry Mellor	University of Bristol, External Subject Specialist
Professor Kirsteen McCue	Senate Assessor on Court
Ms Emma Hardy	Students Representative
Professor Stuart Nicklin	Institute of Cardiovascular and Medical Sciences, Cognate Member
Dr Vicki Dale	Learning Enhancement and Academic Development Service
Dr Richard Lowdon	Senate Office, Clerk to the Review Panel

1. Introduction

- 1.1.1 The College of Medical, Veterinary and Life Sciences (MVLS) was formed in 2010 and is composed of three Schools: Medicine, Dentistry and Nursing; Veterinary Medicine; and Life Sciences. These Schools are responsible for all of the College's undergraduate teaching provision. In addition, the College provides a wide range of postgraduate teaching, the majority of which is channelled through seven Research Institutes: Molecular, Cell and Systems Biology; Cancer Sciences; Biodiversity, Animal Health and Comparative Medicine; Infection, Immunity and Inflammation; Cardiovascular and Medical Sciences; Health and Wellbeing; and Neuroscience and Psychology. The MVLS Graduate School is responsible for the oversight and governance of all Taught Postgraduate (PGT) teaching in the College, although the managerial responsibility and accountability for College staff who contribute to Graduate School teaching lies with the Head of Schools and Directors of Research Institutes. In 2015, five distinct 'Clusters' were created in the Graduate School to promote course sharing and good practice within programmes of overlapping academic themes: Animal and Plant Sciences; Biomedical Sciences; Health and Wellbeing; Medical and Clinical Sciences; and Medical Professions. These Clusters are overseen by programme leads or Research Institute/School representatives from those areas.
- 1.1.2 The Graduate School previously underwent internal review in November 2012, which covered all PGT programmes run by the Graduate School. Since the last review, the number of PGT programmes has more than doubled and student numbers have also greatly increased. Therefore, in advance of this Periodic Subject Review (PSR), a decision was taken by the Graduate School to split the Clusters into two groups, with Group one being the focus of this Review. This Group consists of two Clusters: Animal

and Plant Sciences; and Biomedical Sciences. Group two would be reviewed in 2020 and would include three Clusters: Health and Wellbeing; Medical and Clinical Sciences; and Medical Professions.

- 1.1.3 Preparation of the Graduate School Self Evaluation Report (SER) was led by the Associate Dean of Graduate Studies (Dr Cheryl Woolhead), together with the Biomedical Sciences, and Animal and Plant Sciences Cluster Leads. Contributions were also made by PGT Leads representing the relevant Research Institutes and Schools, in addition to programme and course leaders. Further contributions were made by members of the Graduate School administration team, including the Academic Governance Manager (Ms Tracy Maxwell); the Graduate School Quality Officer (Dr Anna O'Neill); the Head of College Academic and Student Administration (Mrs Caroline Mallon); the Associate Dean for Digital Education (Professor Jo-Anne Murray); and the Recruitment and Marketing Officer (Mr Phillip Stanley). A draft of the SER was circulated to the College Head of Academic and Student Administration (Mrs Caroline Mallon); the Dean of Graduate Studies (Professor George Baillie); the Deputy Dean of the Graduate School (Professor Jo-Anne Murray); and the Dean of Learning and Teaching (Professor Maureen Bain). Comments from these members of staff were incorporated into the SER, before it was circulated more widely to all relevant staff and students for further comment.
- 1.1.4 The Review Panel met with the Dean of Graduate Studies (Professor George Baillie); the Associate Dean of Graduate Studies (Dr Cheryl Woolhead); the Associate Dean for Digital Education (Professor Jo-Anne Murray); the Cluster Lead for Biomedical Sciences (Dr Katherine West); the Cluster Lead for Animal and Plant Sciences (Professor Barbara Mable); the College Head of Academic and Student Administration (Mrs Caroline Mallon); PGT students; members of PGT teaching staff; and members of Management, Professional and Administrative (MPA) staff.

2. Context and Strategy

2.1 Vision and Strategy

- 2.1.1 As stated in the SER, the Graduate School's vision is to "design and deliver a portfolio of postgraduate taught programmes, through both on campus and online delivery, to meet market needs and produce high calibre graduates who are welcomed into a range of careers and professions, including those in health, the veterinary and social care sectors, as well as for basic and applied sciences". The Graduate School's programmes are intended to be internationally competitive, and draw on the research and teaching strengths of staff in the College of MVLS.
- 2.1.2 The SER made reference to the University's strategy to increase PGT provision and highlighted a range of strategic objectives that were put in place by the MVLS College Management Group in 2018 to support this strategy:
- Develop new programmes, courses and content in areas of high demand where University expertise can be applied.
 - Re-evaluate the provision of low-income programmes and courses.
 - Guide Research Institute/School investment in PGT development by: identifying areas of exceptional interest; aligning postgraduate teaching with academic expertise and research portfolio; providing training for future careers in science; developing online and on campus delivery methods.
 - Promote links across the College, the University, and outwith the University.

- Provide resources to facilitate the objectives named above in: marketing and recruitment; academic governance; business planning; and course and programme administration.

2.2 Significant changes since the last review

- 2.2.1 Since the Graduate School last underwent internal review in November 2012, there had been significant changes in PGT provision. The number of programmes offered by the Graduate School has more than doubled, and the number of students has increased significantly. The Graduate School has also been successful in recruiting a higher proportion of international students to the College.
- 2.2.2 As noted in the SER, all recommendations from the last PSR were addressed at the time, including; reviewing recruitment targets; and developing a strategy for programme development and approvals. Since the last PSR, the Graduate School had also seen significant changes in its senior academic staff, including a new Dean of Graduate Studies in 2016, in addition to three new Associate Deans in Digital Education (2015), Postgraduate Research (2016), and Postgraduate Teaching (2016). The Graduate School had reorganised its programme content into five 'Clusters' in 2015, created a new MVLS pre-Masters route through Glasgow International College (2017), developed a new programme approvals process (2017), designed a new integrated MSc/PhD route (2017), and created a project collection system (2018). In addition to these developments, the Graduate School had implemented a range of new standard operating procedures and PGT policies.

Centralisation of administration

- 2.2.3 Following an administrative review in 2015, the SER noted that the Graduate School had established a new centralised PGT administration team, overseen by a PGT Administration Manager and two Deputy Managers. Bringing together staff who were previously based in Schools and Research Institutes across the campus, had improved the standard of administrative support, enabling course and programme leaders to focus on enhancing the student experience, rather than focusing on routine organisational tasks. The centralisation of administration had also allowed the Graduate School to standardise its documentation and procedures, resulting in greater consistency across its programmes. Furthermore, having an administration team based within the Graduate School had facilitated close working relationships with other members of the Graduate School team, allowing for: improved oversight of academic governance and student progress; greater capacity for business planning for new and revised programmes; improved recruitment and conversion of PGT applicants onto programmes; and greater participation in activities such as open days, and induction and social events.
- 2.2.4 The Review Panel recognises the work that has been undertaken by the Graduate School over the past six years and **commends** the Graduate School for the significant improvements that have been made since the last review in 2012, including the establishment of a new centralised PGT administration team, and the development of new programmes, including significant growth in online distance learning provision.

Development of Research Clusters

- 2.2.5 As noted in the SER, when the College of MVLS was created in 2010, postgraduate teaching was dispersed across the University and both academics and administrators had expressed concerns about the lack of support in relation to governance and standard operating procedures. In 2015 research Clusters were created with a view to transferring decision making regarding programmes and courses to these new groupings. At the meeting with the Dean of Graduate Studies, the Review Panel was

informed that the formation of the Clusters had promoted closer links between PGT programmes that were owned by different Research Institutes and Schools. The Cluster structure had also enabled a greater degree of course sharing across the College, reduced duplication of teaching, and facilitated the sharing of good teaching and organisational practice across programmes. Furthermore the Cluster design had allowed the Graduate School to take advantage of research expertise across the College, and had increased the range of provision in the College through course sharing.

- 2.2.6 Regarding the approval of courses, the SER noted that courses in the Graduate School were approved by a 'super-cluster' consisting of specialists and non-specialists from different Clusters with experience of course development and design. This approvals group was responsible for analysing the PIP proposals for content, Intended Learning Outcomes, and assessment. The approvals group also gave guidance on contact time and weighting of assessments, allowing the College to achieve greater consistency in the delivery and assessment of PGT courses. Therefore, the Review Panel **commends** the strategic decision to restructure the Graduate School into Clusters and recognises the positive impact that this has had on facilitating course sharing and good practice across programmes, allowing the Graduate School to take advantage of research expertise in the College, and improving the consistency and range of provision across its PGT portfolio.

Attitude to taking risks

- 2.2.7 Throughout the SER, and at the meetings with the Director of Graduate Studies, and teaching staff, the Review Panel noted that the Graduate School had taken a number of risks such as the reorganisation of its programmes into research Clusters, the development of a centralised administration team, and a rapid expansion in the number of programmes offered to students. In particular, the Panel noted that the Graduate School had played a pioneering role in the University in the provision of Online Distance Learning (ODL) programmes over the past four years. The Graduate School had also identified opportunities for future expansion of ODL and had utilised the technology used for ODL programmes to support blended learning on other programmes. While the Panel recognised that student numbers had increased significantly since the last Review, it was noted that some ODL programmes had faced challenges with recruitment. This was raised at the meeting with the Dean of Graduate Studies who informed the Panel that some ODL programmes had not recruited the numbers of students that had originally been anticipated and that this had resulted in disproportionately large amounts of staff time being devoted to small student cohorts. The Graduate School hoped to learn from these experiences and consolidate its provision by withdrawing programmes with low recruitment, reducing the number of new programmes on offer, and increasing investment in more popular programmes to further bolster student numbers on these programmes. The Panel observed that the Graduate School had been prepared to take significant risks over the past four years by engaging so ambitiously with Online Distance Learning and rapidly expanding its provision of ODL programmes. The Graduate School had also taken positive steps to re-evaluate its ODL strategy in response to varying student recruitment numbers. Therefore, the Review Panel has identified the Graduate School's willingness to take risks with respect to educational innovation and its organisational structure as an area of **good practice**.

2.3 Staff

- 2.3.1 Approximately 280 staff contributed to PGT programmes within the Biomedical Sciences, and Animal and Plant Sciences Clusters. These staff were located across the School of Medicine, Dentistry and Nursing; the School of Life Sciences; the School

of Veterinary Medicine; and five and out the seven Research Institutes. The Graduate School had no direct line-Management responsibility for these staff. In addition to this, approximately 20 members of staff from outwith the College of MVLS, or the University, contributed to teaching in these Clusters.

2.4 Students

Student numbers between 2016-17 and 2018-19 are summarised as follows:

Cluster	PGT students (FTE) 2018-19	PGT students (FTE) 2017-18	PGT students (FTE) 2016-17
Animal and Plant Sciences	84	88	64
Biomedical Sciences	304	273	206
Total	388	361	270

2.5 Range of Provision under Review

The Review Panel considered the following range of provision currently offered by the Biomedical Sciences, and Animal and Plant Sciences Clusters:

Biomedical Sciences Cluster

- MSc Bioinformatics
- MSc/MRes Biomedical Science
- PGCert Anatomy
- MSc Medical Visualisation and Human Anatomy
- MSc Brain Sciences
- MSc Cancer Sciences
- MSc Molecular Pathology
- MSc Medical Genetics and Genomics
- MSc Genetic and Genomic Counselling
- MSc Clinical Genetics
- MSc Biotechnology
- MSc Biotechnology and Management
- MSc Infection Biology
- MSc Immunology and Inflammatory Disease

Animal and Plant Sciences Cluster

- MRes Ecology and Environmental Biology
- MSc Quantitative Methods in Biodiversity, Conservation and Epidemiology
- MSc Animal Welfare Science, Ethics and Law
- MSc Conservation Management of African Ecosystems
- MSc Wildlife and Livestock Management – Online Distance Learning
- MSc One Health – Online Distance Learning
- MSc Food Security
- Socio-Legal Studies (MRes)

2.6 Strategic Approach to Enhancing Learning and Teaching

2.6.1 As noted in the SER, the Graduate School's learning and teaching strategy was interlinked with the strategies of each individual Research Institute and School, in addition to the College direction as a whole. The previous Graduate School strategy concluded in 2017, and the Dean and Associate Deans in the Graduate School were in the process of developing a new learning and teaching strategy. The Dean of the Graduate School had regular discussions with the Head of College regarding the ongoing strategy of the Graduate School in relation to the College strategy. This information was reported to the Associate Deans and other senior members of the Graduate School team at fortnightly management meetings.

3. Enhancing the Student Experience

3.1 Admissions, Retention and Success

Admissions

3.1.1 In the SER, and at the meeting with the Dean of Graduate Studies, significant concerns were raised about the University's 'Applicant Self-Service' system, which was owned by Student Lifecycle Support and Development (SLSD). It was noted that, once an application had been submitted to the Graduate School, applicants used the Self-Service system to check their application status, review their application, and make amendments to their application. The Review Panel was informed that the Self-Service system had been used by the Graduate School for seven years, during which time they had received a number of complaints from applicants. Specific issues had been raised with SLSD but no resolution had been found. At the end of 2018, the Graduate School was informed that resources would be allocated to resolve the issue but no update had been received since then. The Review Panel expressed concerns that the issues relating to the Applicant Self-Service system had not been resolved, particularly given its potential to dissuade applicants from coming to Glasgow, and urgently **recommends** that deficiencies in the Applicant Self-Service process are addressed by IT Services.

Marketing and recruitment strategy

3.1.2 In line with the evidence-based recruitment strategy adopted by the College of MVLS, the SER noted that the Graduate School was using content-rich marketing to advertise the unique selling points of its programmes. The Graduate School was also using its research outputs to brand itself as an academic leader in areas aligned to its PGT programmes. Furthermore, the Graduate School was collaborating with other Colleges and External Relations to purchase media space and develop a joined up digital strategy which harnessed the University's brand message.

3.1.3 One of the biggest areas of growth in the Graduate School had been in Online Distance Learning (ODL). Over the past three years, the Graduate School had increased its ODL provision to 17 programmes. The University had also formed a partnership with Wiley Education Services to assist with student recruitment and marketing for ODL programmes. Within the Clusters of Animal and Plant Sciences, and Biomedical Sciences, the MSc in One Health programme had been selected to enter the Wiley partnership as an area for potential future growth. Therefore, the Review Panel recognises the Graduate School's work to develop a focused marketing strategy which seeks to align MSc programmes with College research expertise drawing on advice and assistance from External Relations and external partners. Therefore, the Review Panel has highlighted this as an example of **good practice** in the Graduate School.

Retention and success

- 3.1.4 The SER stated that the mean pass rate for PGT courses in the Animal and Plant Sciences, and Biomedical Sciences Clusters was 99% in 2017 and that this was in line with the University as a whole.
- 3.1.5 The SER noted that, in 2017, 86% of MVLS PGT students reported positive destinations six months after graduating – an increase from 82% in 2015. Of the students that reported positive destinations, 65% were in work, 18% were continuing with their studies, and the remaining 3% were in a mixture of part-time work/study. A significant proportion of students also progressed to PhD study. In the Animal and Plant Sciences Cluster, the percentage of students who went on to study for doctoral degrees was 25%.

3.2 Equality and Diversity

Timetabling for students with Disabilities

- 3.2.1 In the SER, and at the meeting with the Dean of Graduate Studies, it was noted that there were issues relating to timetabling and that this had had an impact on students with disabilities. In particular, it was noted that one student had been unable to attend lectures due to their inaccessible location. This was due to the fact that the current timetabling system required all rooms to be booked by April, which was before student disability information was made available to members of staff in the Graduate School. While the Review Panel acknowledges that there is a shortage of suitable teaching space across the University, particularly at peak times, it **recommends** that the Disability Equality Group should examine and, if appropriate, implement strategies to identify students with mobility issues prior to their arrival at the University to ensure that appropriate rooms can be obtained in advance of the start of teaching.

3.3 Supporting Students in their Learning

Student mental health

- 3.3.1 In the SER, concerns were raised about students becoming overly-reliant on the administration team for mental health support. This issue was raised in the meetings with teaching staff, and administrative support staff. At the meeting with teaching staff, staff informed the Review Panel that they were unsure who was responsible for supporting students that suffered from poor mental health during their studies and that they felt ill-equipped to support these students. At the meeting with administrative support staff, it was noted that Miss Karen Morton (Head of Student Support and Wellbeing) had provided a training session for the Graduate School administration team. The University's Disability Service had also provided training, and three members of administrative staff had undertaken the Mental Health First Aid training offered by the University. However, it was noted that there was a lack of visibility on the University's website (and across the University more generally) about student mental health support and the mental health training opportunities that were available to staff. Furthermore, concerns were raised that there was no central point of contact in the Graduate School, College, or University that students could be referred to if they reported mental health issues to staff. The Review Panel welcomes the Graduate School's efforts to support students suffering from mental health issues but **recommends** that the lines of responsibility for student mental health support should be clarified across the Graduate School to ensure that all staff are aware of who students should be referred to.

Peer support mechanisms

- 3.3.2 The SER made reference to a variety of programme-specific peer support initiatives introduced by the Graduate School. For example, second year students on the Genetic and Genomic Counselling MSc programme, acted as mentors for first year students, which had helped to foster communication and the sharing of advice among students. For one-year programmes where this was not possible, the Graduate School planned to engage more with its Alumni to encourage former students to help current students and to provide a stronger support network for its recent graduates. For example, previous Masters students who had gone on to doctoral study within the College were often invited to participate in induction events for new Masters students and to help them feel engaged with the broader postgraduate research community. The Graduate School also hoped that further engagement with its alumni could benefit current students by allowing them to make contacts with previous students who were engaged in careers and areas of research that they hoped to pursue.
- 3.3.3 In addition to mentoring, the SER noted that students on most programmes in the Graduate School were encouraged to work together throughout the year to engage in problem solving. Students were also encouraged to develop social media groups to share information, and to develop peer review networks to help to improve their assignments before submission. This collegial and supportive ethos was further reinforced through the Graduate School's focus on collaborative learning activities such as small group teaching, group working and multi-student projects. The Review Panel welcomes the Graduate School's efforts to develop peer-support mechanisms and recognises that this has been effective in enhancing the learning experience for students. Therefore, the Review Panel has identified this as an example of **good practice** in the Graduate School.

Transitions to graduate study

- 3.3.4 As noted in the SER, students entering the Graduate School came from a range of scientific and clinical backgrounds. To ensure that all students had a basic level of knowledge in key areas, several programmes in the Graduate School had implemented a range of strategies to support students. For example, the MSc programmes in Medical Genetics and Genomics; Clinical Genetics; and Genetic and Genomic Counselling, ran a pre-Masters 'Genetics Revision Moodle' containing interactive material and self-assessment tools to help students to revise basic concepts and catch up on any topics that were not covered during their undergraduate studies. Students on these programmes also completed a multiple-choice quiz during their first week which was used to identify individuals that would benefit from additional tutorials. Furthermore, the MSc Immunology and Inflammatory Disease programme had introduced a pre-Masters reading course and an online multiple-choice quiz to allow students to assess how well they understood the pre-course reading.
- 3.3.5 After arrival at Glasgow, the SER noted that many programmes in the Graduate School ran additional tutorial classes to help students fill in any gaps in prior learning. The MSc/MRes in Biomedical Sciences and the MSc in Biotechnology had also developed a Molecular Methods mobile phone app which allowed students to develop their molecular biology knowledge if they did not have any previous experience in this area. The Review Panel welcomes the Graduate School's efforts to assist students in their transition from undergraduate to postgraduate study and believes that the introduction of pre-Masters revision Moodles, quizzes, additional tutorials and Apps have the advantage of facilitating revision, refreshing students' memories of key topics, and supporting students who are transitioning from one discipline to another. Therefore, the Review Panel has identified this as an area of **good practice** in the Graduate School.

3.4 Student Engagement

Course evaluation survey response rates and Summary and Response Documents

- 3.4.1 As noted in the SER, the University's Course Evaluation Policy sets out the University's requirements for gathering, presenting and responding to feedback from students via anonymous questionnaires, which are produced and distributed to students using EvaSys. The Graduate School distributed its course evaluation surveys online and students were asked to reflect on the course content, the learning experience, and course expectations. Following completion, teaching staff were sent a statistical summary of the survey results for their course and requested to produce a Summary and Response Document which provided a summary of student responses, along with any action that would be taken in response to any issues that were highlighted. This document was usually posted on Moodle for students to view within 10-15 working days of the survey closing date, and any actions identified from student feedback were discussed with the Course Coordinator and in consultation with the teaching team and, where appropriate, the Programme Director.
- 3.4.2 While the Graduate School acknowledged that the information provided by course evaluation surveys had been a useful tool for student engagement, concerns were raised about low completion rates due to survey fatigue, and the lack of anonymity for students completing surveys on courses with low enrolments. In the meeting with students, the Review Panel was informed that course evaluation surveys were usually completed electronically and out of class. Students also noted that they would be more likely to complete surveys if they had the opportunity to do so in class. Furthermore, students informed the Panel that they did not always receive Summary and Response Documents for their courses, highlighting any action that would be taken as a result of their feedback. Consequently, while the Panel acknowledged that the use of course evaluation surveys was well embedded across programmes, they shared the Graduate School's concerns that response rates for EvaSys surveys were low, and took note of the concerns raised by students that Summary and Response documents were not being completed consistently across all programmes. Therefore, the Review Panel **recommends** that the Graduate School liaises with the Senate Office and consults the good practice guide on the Senate Office Website to develop a strategy for increasing student response rates for EvaSys course evaluation surveys. The Review Panel also **recommends** that the Graduate School develops a mechanism to ensure that Summary and Response Documents are completed for all courses and that these documents are made available to students on each course.

Graduate Skills Award

- 3.4.3 As highlighted in the SER, the Graduate School launched a 'Graduate Skills Award' for PGT students in September 2017. This personal development and skills programme provided postgraduate students with opportunities to enhance their transferable skills and attributes through a range of lectures and a series of workshops which had been specifically designed to improve employability. In so doing, the award offered students a wide range of activities on topics such as interview techniques, volunteering, leadership, research integrity, and communicating science. In collaboration with LEADS, the Graduate School recently submitted a successful Learning and Teaching Development Fund (LTDF) bid to develop an online course in Good Laboratory Practice to expand its skills offerings for students. The Graduate Skills award was available to both on-campus and Online Distance Learning (ODL) students, and completion of the programme allowed students to receive a certificate and acknowledgment of the Award on their Higher Education Achievement Report (HEAR).
- 3.4.4 The SER included a collection of quotes from students who had completed the Graduate Skills Award. The Review Panel noted that these comments were

overwhelmingly positive and that students welcomed the opportunity to supplement their academic learning and develop their graduate attributes. Therefore, the Review Panel **commends** the Graduate School for the development of a 'Graduate Skills Award', which provides PGT students with a range of skills and training activities to enhance graduate attributes and employability.

Signposting of PhD opportunities

- 3.4.5 As noted in the SER, a large number of students from the Animal and Plant Sciences, and Biomedical Sciences Clusters progressed to PhD study once they had completed their PGT programme in the Graduate School. The SER highlighted several examples of how prospective PhD students were supported. For example, former Masters students who had progressed to doctoral study within MVLS were invited to participate in induction events for new Masters students. The Graduate School also ran several PGT to PGR conversion events, which were specifically designed to introduce PGT students to the research currently being carried out in the College at PhD level. These events allowed students to meet current PGR students, and to ask questions about their experience of doctoral study.
- 3.4.6 At the meeting with PGT students, the Review Panel enquired if any students were intending to progress to PhD study. Several students noted that they had applied for PhD positions at the University. However, concerns were raised that they were not given sufficient notice of application deadlines, that PhD funding opportunities were not widely advertised in the Graduate School, and that they were not always aware of differences in eligibility requirements between home/ EU and international students for certain funded studentships. This was particularly problematic given the early dates of application and funding deadlines. Therefore, the Review Panel **recommends** that the Graduate School should improve the pre and post-arrival signposting of PhD and funding opportunities to students.

4. Enhancement in Learning and Teaching

4.1 Learning and Teaching

Student learning opportunities

- 4.1.1 The SER made reference to a variety of learning opportunities that were available to students on programmes offered by the Biomedical Sciences, and Animal and Plant Sciences Clusters. For example, the MSc in Medical Genetics and Genomics, and MSc Clinical Genetics programmes had introduced a student-led symposium, in which students delivered a 10-minute presentation outlining the background, rationale and strategy for their research project. Student volunteers took responsibility for the organisation of the symposium, including the timing of sessions, the compilation of abstract booklets, and assigning students to chair each session. The symposium also provided students with an opportunity to hear about other students' research proposals, which could help to inform their own project.
- 4.1.2 In an effort to develop students' graduate attributes, the SER also noted that students on the MSc Medical Genetics and Genomics were given the opportunity to participate in STEM events at local Schools and the Glasgow Science Centre. Furthermore, several programmes in the Biomedical Sciences and Animal and Plant Sciences Clusters offered students the opportunity to participate in site visits and field trips. For example, students on the MSc in Biotechnology programme took part in a field trip to a local brewery, and students on the MSc in Animal Welfare Science, Ethics and Law programme were given opportunities to attend site visits to various types of farms, zoos, wildlife parks, and research laboratories to witness the range of situations where

animals were kept in captive environments. The Review Panel welcomes the range of learning opportunities that students are exposed to in the Graduate School, including the opportunity to participate in student-led symposia, STEM activities in schools, and site visits and field trips, and has highlighted this as an area of **good practice** in the Graduate School.

Technology-enhanced learning and teaching

- 4.1.3 The SER referred to a range of technology-enhanced learning and teaching (TELT) activities that were embedded in programmes and courses across the Animal and Plant Sciences, and Biomedical Sciences Clusters. In particular, the SER noted that all programmes and courses had dedicated online Moodle sites where materials such as lecture slides, Intended Learning Outcomes, links to additional resources, and study guides were posted. Moodle forums were also used by staff to communicate with students, and for students to post questions to their peers.
- 4.1.4 Regarding specific examples of TELT activities, the Key Research Skills course in the Animal and Plant Sciences Cluster had made use of Second Life for poster presentations. In the Biomedical Sciences Cluster, the Genetic Disease course provided students with access to preparation videos to engage with before lectures which formed the basis for in-class activities. Other programmes in the Cluster such as the MSc in Molecular Pathology made use of blended learning through a mix of face-to-face tutorials and online activities. Furthermore, the SER noted that the MVLS Digital Education Unit had provided resources to create an online Moodle course, which included lecture recordings, slides and worked examples. This course was available to all MVLS PGT students. In addition, an online software training resource for statistics known as 'Stats for the terrified', was made available to PGT students on all computers in MVLS IT clusters and to Online Distance Learning students via the University's VPN service. The Review Panel recognises the Graduate School's efforts to engage with TELT across its programmes, particularly in relation to statistics training, and has identified this as an example of **good practice** in the Graduate School.

4.2 Assessment and Feedback

Group projects

- 4.2.1 As noted in the SER and at the meeting with the Dean of Graduate Studies, some PGT programmes in the Biomedical Sciences Cluster had trialled the use of multi-student projects to cope with increasing student numbers. In 2015-16, the MSc in cancer Sciences introduced a multi-student project in which two academic staff and a post-doctoral researcher supervised 17 students. In 2018, two further programmes ran multi-student projects of up to five students each, and it was expected that further multi-student projects with between four and 13 students would be trialled in 2019-20. In these projects, one or more members of teaching staff would supervise several students who worked in parallel on highly related projects. The students used similar techniques to enable them to support each other and learn from each other's experiences. However, each student prepared their own project report independently and was assessed on an individual basis.
- 4.2.2 The SER also highlighted that feedback had been gathered (via questionnaires and focus groups) from students who undertook a multi-student project on the Cancer Sciences programme. This feedback revealed that most students on the project were satisfied with their experience and valued the peer-assisted learning and friendship opportunities associated with this type of project. Teaching staff involved with the project also observed that students were more likely to ask questions of each other

rather than relying on their supervisor, making it less labour-intensive to supervise a multi-student project than several unrelated projects.

- 4.2.3 However, at the meeting with teaching staff it was noted that, while multi-student projects had generally worked well, they were not appropriate for all students. For example, multi-student projects were more likely to be located in teaching labs rather than in research labs, meaning that students who participated in these projects would not benefit from the broader experience of being integrated into a research team. As such, multi-student projects were less suitable for students intending on progressing to doctoral study. This was not regarded as a significant issue due to the fact that students still had the ability to select an individual project or a multi-student project. However, concerns were raised that large multi-student projects required significant space and lab resources, and the availability of technicians to assist students with their queries. Consequently, these resources would need to be reviewed if multi-student projects were implemented more widely across the Graduate School. The Review Panel welcomes the Graduate School's efforts to manage growing student numbers and to provide students with new learning opportunities through the introduction of multi-student projects, and has identified this as an area of **good practice** in the Graduate School. Furthermore, the Review Panel **recommends** that the Graduate School reviews its approach to the provision of MSc group projects with a view to evaluating the benefits and costs of expanding this provision to alleviate project loads associated with future postgraduate student growth. The Review Panel also recommends that this approach should be discussed at the College Management Group to ensure that it can be embedded within future resourcing plans.

Student engagement with feedback

- 4.2.4 Regarding the speed and quality of student feedback, the SER noted that results from the Postgraduate Student Experience Survey (PTES) illustrated that most programmes in the Graduate School had achieved lower rates of student satisfaction than programmes in other Colleges across the University. However, it was highlighted that the three Medical Genetics MSc programmes had made substantial efforts over the past few years to help students engage with their feedback and to act on it in subsequent assignments. For example, in assessments for the "Distress or Disorder" and "Patient Empowerment" courses, students undertook a comparative exercise providing evaluative feedback on other students' submitted work. Students then submitted a brief reflective report on their own work which was informed by their learning during the exercise, and an overall commentary was provided by the lecturer. The SER noted that this evaluative and reflective exercise constituted 20% of the final grade for the course and had improved student grades in the Distress or Disorder course from an average of a B3 in previous years to a B1 in the current academic year. Furthermore, students on all three MSc Medical Genetics programmes were required to complete an assessed reflection, including an action plan, on their feedback for the first two or three reports during the year. This 'feed-forward' approach had improved student attainment and had resulted in higher levels of student satisfaction with feedback.
- 4.2.5 At the meeting with PGT students, students on the Medical Genetics and Genomics programme informed the Review Panel that they had received extensive feedback on their work, and that this had helped them to improve their marks in later assessments. Students also informed the Panel that the requirement to complete an assessed reflection had encouraged them to engage more with their feedback. Therefore, the Review Panel **commends** the work of staff on the Medical Genetics and Genomics MSc programme for the development of effective strategies to improve student engagement with feedback.

Consistency of student experience

4.2.6 At the meeting with PGT students, the Review Panel noted that students had a broad range of learning experiences and that student satisfaction varied significantly between programmes. This was particularly the case when students discussed assessment and feedback. For example, some students expressed concerns that there was an over-reliance on memory recall in their assessments, whereas other students (particularly those on the Medical Genetics and Genomics Programme) noted that their assessments placed a greater emphasis on demonstrating understanding of particular topics. Some students also expressed concerns about the length of time it took them to receive feedback on their work and informed the Panel that delays to feedback prevented them from learning from marker comments and improving their academic writing skills prior to submitting their next assessment. However, other students noted that they had received detailed and timely feedback which had helped them to improve their marks in future pieces of work. This was also acknowledged in the SER, which noted that the timeliness of feedback was highlighted as an issue by some students in the Postgraduate Taught Experience Survey (PTES). Therefore, The Review Panel **recommends** that the Graduate School should identify programmes that are delivering the most effective learning experience for students in terms of good teaching practices, the provision of effective feedback, and the equality of learning opportunities, with a view to disseminating these practices to other parts of the Graduate School.

4.3 Resources for Learning and Teaching (staffing and physical)

Computing facilities

4.3.1 Regarding computing facilities, the SER noted that IT resources for students were available as computer clusters in various locations across the campus. However, PC clusters for teaching had been a limiting resource for the Graduate School. In particular, the SER noted that enhancing computing provision would allow programmes such as the MSc in Bioinformatics to accommodate shared courses and reduce duplication of teaching. Furthermore, at the meeting with teaching staff the Review Panel was informed that there was a requirement for PC cluster computing solutions with sufficient disc space to meet the needs of PGT students, and that this would improve the quality and quantity of teaching that the Graduate School could provide. In an effort to address the limited availability of computing facilities for teaching, some Animal and Plant Sciences programmes required students to bring their own laptops, with the capability to run word processing and specialised statistical software. However, it was noted that a lack of flexible space to accommodate these sessions, in addition to inconsistent WiFi across the University campus, posed significant challenges to this method of teaching. It was also noted that laptops were not suitable for specialist programmes with significant computing requirements.

4.3.2 The Panel agreed that a number of programmes offered by the Graduate School required extensive computing resources, and that the demand for such facilities was likely to increase as teaching in areas such as programming and bioinformatics increasingly involved powerful computational work. Therefore, the Review Panel **recommends** that the Graduate School should analyse current requirements for computing facilities across its portfolio and, on the basis of this and trend data, develop a future requirements statement to inform future facility development. This should then be shared with the Vice-Principal Academic Planning and Technological Innovation to ensure the requirements are appropriately captured in future IT facility planning.

Obtaining suitable teaching spaces

4.3.3 In the SER, and at the meeting with the Dean of Graduate Studies, the Review Panel was informed that the Biomedical Sciences, and Animal and Plant Sciences Clusters used a variety of teaching rooms across the Gilmorehill campus, the Garscube Estate, and the Queen Elizabeth University Hospital (QEUH). The Graduate School also reported that new infrastructure and redesigned teaching rooms had been useful for developing non-didactic teaching methods. For example, Technology Enhanced Active Learning (TEAL) spaces offered staff the opportunity to develop innovations in group learning by allowing students to share their computer screens with each other and with the whole class. These rooms also allowed instructors to demonstrate particular problems to the whole class rather than repeating the same advice to multiple students. However, at the meeting with the Dean of Graduate Studies, the Panel was informed that the University's room bookings system was inflexible and only allocated rooms on the basis of student numbers, rather than the suitability of teaching spaces. This had caused issues with courses that relied on group-based activities such as workshops and interactive teaching, as some room configurations did not lend themselves well to this type of teaching. In particular, it was noted that there was a lack of high capacity TEAL rooms across the University campus with good internet access and sufficient numbers of power sockets for students with laptops. Teaching staff also enquired if it was possible for Space Management and Timetabling to prioritise large PGT courses that engaged in TEAL activities to ensure that they were allocated appropriate TEAL spaces. The Panel noted that issues relating to the availability of TEAL spaces would be alleviated once the James McCune Smith Learning and Teaching Building had been completed. It was also noted that the new Adam Smith Business School Building would contain flexible teaching spaces (with sufficient power sources and lockers for laptops) to facilitate TEAL activities. However, the Review Panel **recommends** that future timetabling and Estates developments at the University should address concerns about staff being unable to consistently access rooms that are suitable for small group teaching or technology-enabled learning.

Queen Elizabeth University Hospital teaching facilities

4.3.4 At the meeting with PGT students, the Review Panel was informed that teaching for some courses took place at the University's teaching facility in the Queen Elizabeth University Hospital. Some students expressed concerns that there was a lack of space and insufficient facilities for group and personal study at the Hospital. While students recognised that staff had done their best to accommodate students and carry out group activities in the teaching spaces that they had been allocated, they informed the Panel that this had negatively impacted on their teaching experience. Therefore, the Review Panel **recommends** that the Graduate School should review the provision of loose furniture at the Queen Elizabeth University Hospital teaching facility with a view to addressing student concerns regarding facilities for group and personal study.

4.4 Engaging and Supporting Staff

Support and development for Early-Career Researchers

4.4.1 As noted in the SER and at the meeting with the Dean of Graduate Studies, the development of individual staff that taught on PGT programmes in the Graduate School was the responsibility of their home Research Institute or School. However, the Graduate School was responsible for providing assistance to staff, including Early-Career Researchers, in relation to course and programme design. The creation and introduction of programmes had also served as useful development opportunities for Early-Career Researchers. For example, one Early Career Researcher would be contributing to teaching on a recently-developed PGT programme in the Animal and

Plant Sciences Cluster and was planning to use the development of a new 20 credit module as an exercise for their PGCert in Academic Practice. It was anticipated that opportunities for course development for Early Career Researchers would increase as class sizes for PGT programmes continued to grow.

Graduate Teaching Assistants

4.4.2 At the meeting with the Dean of Graduate Studies, the Review Panel was informed that Graduate Teaching Assistants (GTAs) were mainly employed as demonstrators for practical laboratory and computer sessions by the Animal and Plant Sciences, and Biomedical Sciences Clusters, to provide additional support for students on programmes with large class sizes. The Panel was also informed that GTAs were normally PhD students, and that the Graduate School had no direct responsibility for the development and support of these staff.

5. Academic Standards

5.1.1 The Review Panel considered that the MVLS Graduate School had a variety of robust and effective procedures in place which ensured that it was engaged in a continual process of self-reflection and self-evaluation with regard to academic and pedagogical practice.

Currency and Validity of Programmes

5.1.2 The Review Panel, guided by the views of the External Subject Specialist, confirmed that, at the time of the Review, the programmes offered by the MVLS Graduate School were current and valid in the light of developing knowledge and practice within the area.

6. Summary of perceived strengths and areas for enhancement

6.1 Key strengths

The Review Panel identified the following areas as key strengths:

- The Graduate School's Cluster structure and the centralisation of PGT administration.
- Engagement with Online Distance Learning.
- The development of a 'Graduate Skills Award' to enhance graduate attributes.
- The development of peer-support mechanisms to assist students with their studies.
- The support provided to students in their transition from undergraduate to postgraduate studies.
- The wide range of learning opportunities that were made available to students.
- The Graduate School's engagement with technology-enhanced learning and teaching.
- The introduction of multi-student projects to manage increased student numbers.

6.2 Areas for enhancement

The Review Panel highlighted the following areas as opportunities for further work:

- Clarifying the line of responsibility for student mental health support.
- Addressing deficiencies in the Applicant Self-Service process.
- Provision of suitable/accessible teaching spaces and facilities.
- Expanding the provision of group projects and ensuring the equality of learning opportunities for students across all PGT programmes.
- Improving student survey response rates and compliance with the University's Course Evaluation Policy.
- Improving the signposting of PhD and funding opportunities for students.

Specific recommendations addressing these areas for work are listed below, as are a number of further recommendations on particular matters.

7. Conclusion

The Review Panel concluded that the Animal and Plant Sciences, and Biomedical Sciences Clusters are committed to enhancing the quality of teaching provision across its programmes. In particular, the Review Panel recognises the significant work that has been undertaken by the Graduate School over the past six years, including the establishment of a new centralised PGT administration team, the development of new programmes, and the significant growth in online distance learning. The Graduate School has also taken effective steps to restructure its provision into Clusters, which has had the advantage of facilitating course sharing across programmes, and allowing it to take advantage of research expertise in the College. Furthermore, the Panel recognises the Graduate School's commitment to developing students' graduate attributes through the introduction of a 'Graduate Skills Award' and by providing students with a broad range of learning opportunities. The Review Panel makes a number of recommendations, identifying opportunities for the Graduate School to further enhance the quality of its learning and teaching provision. However, these recommendations should not detract from the Panel's overall view of the Animal and Plant Sciences, and Biomedical Sciences Clusters as highly successful units within the University.

7.1 Good Practice

- Attitude to taking risks. [Paragraph 2.2.7]
- Development of a focused marketing strategy. [Paragraph 3.1.3]
- Development of peer-support mechanisms. [Paragraph 3.3.3]
- Transitions to graduate study. [Paragraph 3.3.5]
- Range of learning opportunities available to students. [Paragraph 4.1.2]
- Technology-enhanced learning and teaching. [Paragraph 4.1.4]
- Introduction of multi-student projects. [Paragraph 4.2.3]

7.2 Commendations

The Review Panel commends the MVLS Graduate School on the following, which are listed **in order of appearance** in this report:

Commendation 1

The Review Panel commends the **Graduate School** for the significant improvements that have been made since the last review in 2012, including the establishment of a new centralised PGT administration team, and the development of new programmes, including significant growth in online distance learning provision. [Paragraph 2.2.4]

Commendation 2

The Review Panel **commends** the strategic decision to restructure the Graduate School into Clusters and recognises the positive impact that this has had on facilitating course sharing and good practice across programmes, allowing the Graduate School to take advantage of research expertise in the College, and improving the consistency and range of provision across its PGT portfolio. [Paragraph 2.2.6]

Commendation 3

The Review Panel commends the **Graduate School** for the development of a 'Graduate Skills Award', which provides PGT students with a range of skills and training activities to enhance graduate attributes and employability. [Paragraph 3.4.4]

Commendation 4

The Review Panel **commends** the work of staff on the Medical Genetics and Genomics MSc programme for the development of effective strategies to improve student engagement with feedback. [Paragraph 4.2.5]

7.3 Recommendations

The following recommendations have been made to support the Graduate School in its reflection and to enhance provision in relation to teaching, learning and assessment. The recommendations have been cross-referenced to the paragraphs in the text of the report to which they refer and are **grouped together** by the areas for improvement/enhancement and are **ranked in order of priority within each section**.

Student mental health

Recommendation 1

The Review Panel **recommends** that the lines of responsibility for student mental health support should be clarified across the Graduate School to ensure that all staff are aware of who students should be referred to and that all staff in the referral system are appropriately trained. [Paragraph 3.3.1]

For the attention of: The Dean of Graduate Studies

Applicant Self-Service

Recommendation 2

The Review Panel urgently **recommends** that deficiencies in the Applicant Self-Service process are addressed by IT Services. [Paragraph 3.1.1]

For the attention of: The Director of IT Services
For information: The Dean of Graduate Studies; External Relations

Physical estate, facilities and timetabling

Recommendation 3

The Review Panel **recommends** that the Disability Equality Group should examine and, if appropriate, implement strategies to identify students with mobility issues prior to their arrival at the University to ensure that appropriate rooms can be obtained in advance of the start of teaching. [Paragraph 3.2.1]

For the attention of: The Disability Equality Group
For information: The Dean of Graduate Studies; Space Management and Timetabling

Recommendation 4

The Review Panel **recommends** that the Graduate School should analyse current requirements for computing facilities across its portfolio and, on the basis of this and trend data, develop a future requirements statement to inform future facility development. This should then be shared with the Vice-Principal Academic Planning and Technological Innovation to ensure the requirements are appropriately captured in future IT facility planning. [Paragraph 4.3.2]

For the attention of: The Dean of Graduate Studies; Assistant Vice-Principal for Digital Education
For information: Vice-Principal Academic Planning and Technological Innovation

Recommendation 5

The Review Panel **recommends** that future timetabling and Estates developments at the University should address concerns about staff being unable to consistently access rooms that are suitable for small group teaching or technology-enabled learning. [Paragraph 4.3.3]

For the attention of: Director of Strategy, Performance and Transformation, Estates and Commercial Services
For information: The Dean of Graduate Studies

Recommendation 6

The Review Panel **recommends** that the Graduate School should review the provision of loose furniture at the Queen Elizabeth University Hospital teaching facility with a view to addressing student concerns regarding the provisioning of spaces with the right facilities for group and personal study. [Paragraph 4.3.4]

For the attention of: The Dean of Graduate Studies

Learning and teaching strategy

Recommendation 7

The Review Panel **recommends** that the Graduate School reviews its approach to the provision of MSc group projects with a view to evaluating the benefits and costs of expanding this provision to alleviate project loads associated with future postgraduate student growth. The Review Panel also **recommends** that this approach should be discussed at the College Management Group to ensure that it can be embedded within future resourcing plans. [Paragraph 4.2.3]

**For the attention of: The Dean of Graduate Studies
For Information: Vice Principal and Head of College, College of Medical,
Veterinary and Life Sciences**

Recommendation 8

The Review Panel **recommends** that the Graduate School should identify programmes that are delivering the most effective learning experience for students in terms of good teaching practices, the provision of effective feedback, and the equality of learning opportunities, with a view to disseminating these practices to other parts of the Graduate School. [Paragraph 4.2.6]

**For the attention of: The Dean of Graduate Studies; Learning Enhancement and
Academic Development Service Good Practice Adviser**

Course evaluation

Recommendation 9

The Review Panel **recommends** that the Graduate School liaises with the Senate Office and consults the good practice guide on the Senate Office Website to develop a strategy for increasing student response rates for EvaSys course evaluation surveys. The Review Panel also **recommends** that the Graduate School develops a mechanism to ensure that Summary and Response Documents are completed for all courses and that these documents are made available to students on each course. [Paragraph 3.4.2]

**For the attention of: The Dean of Graduate Studies
For information: Senate Office**

Signposting of PhD and funding opportunities

Recommendation 10

The Review Panel **recommends** that the Graduate School should improve the pre and post-arrival signposting of PhD and funding opportunities to students. [Paragraph 3.4.6]

For the attention of: The Dean of Graduate Studies