

**Internal Periodic Review of:**

**Date of review:** 28 – 30 April 2021

**Date of 14 week response:** 26 November 2021

**Date of year on response:** 12 October 2022

The School/Subject Area is responsible for reporting on progress with all recommendations, including those remitted to other areas of the University for action.

If any recommendation has been fully addressed please record the action taken and date completed. Any barriers to progress should be highlighted on this report.

| Recommendation no | Recommendation  | Timescale for completion        | Comment on progress towards completion and/or identify barriers to completion  | Completion date   |
|-------------------|---|---------------------------------|--|---|
| 1                 | The review team recommends that the School consider the value of a simplified set of PhD programmes, and seek to align them with the future strategy of the School. | By end of 2021/22 academic year | <p>14 week response-</p> <p>The Director of the Graduate School and Manager have discussed the creation of the recommended simplified set of PhD programmes. It has been agreed that we will propose a PhD in Mathematical Sciences which will be 4 years prescribed period with an additional year to write-up. We have spoken to the Dean of PGR Students regarding the process and to clarify the composition of the programme with regards to credits. The Graduate School Manager will draft the necessary programme proposal paperwork to be discussed by the Graduate School Committee before going to the School's February Board of Studies meeting for discussion and approval before then being sent to CCAB.</p> <p>Year on response-</p> <p>Discussions within the School about this recommendation are ongoing. We have refined our proposal taking feedback we received and different areas of research in the school into account. In a paper to be considered by the School's Policy and Advisory Committee we suggest the following alternatives:</p> <ul style="list-style-type: none"> <li>• One PhD in Mathematical Sciences (4 years full-time; 8 years part-time);</li> <li>• Two PhDs, one in Mathematics and the other in Statistics and Operational Research (both 4 years full-time; 8 years part-time);</li> </ul> | End of 2022/23 academic year. For 2023/24 admissions and entry. |

|   |   |    |  |    |
|---|---|----|--|----|
|   |   |    | <ul style="list-style-type: none"> <li>As a sub option to the above, consideration is being given to Mathematics Education continuing to be a separate programme. The rationale being that this is substantially different to our other programmes, students typically follow a different career path, and it would be beneficial for them to have clearly stated that their PhD is in education and not classical mathematical research.</li> </ul>   |    |
| 2 | The review team recommends that the School consider a sustainable strategy for space requirements of a growing graduate school. | ?? | <p>14 week response-</p> <p>We are working towards this recommendation and have implemented some changes in the management of desk and office space in the School. As we are limited in office space at JCMB, students were asked to put themselves into groups of 15-20 and they were then given access to a suite of rooms that they can book space in a least 3 times per week. This system is managed by our PG Student reps. Due to student numbers, we aren't able to give 1st year students specific desks in Bayes so they are asked to hot desk. Generally, there is a lack of space at King's Buildings, and we also believe that the space allocated to the School of Mathematics is considerably less than to other Schools by every metric. Our Head of School has raised this repeatedly with College, proposing that more space is given to the School in JCMB or that unused space in Murchison House is given to the School.</p> <p>Year on response-</p> <p>This continues to be one of the biggest challenges we face within the Graduate School and wider School. We have not been given any extra space despite our hopes we might be given some in Murchison House. We surveyed all PhD students during the summer to find out their intentions for office use this academic year as well as asking whether they were using offices last year. We achieved c. 50% response rate. Students that want to come in to the office continue to express a strong preference for their own individually allocated desk but this is not possible at the moment. Consideration is being given to seeking a compromise and those who want a desk to use 5 days a week be given one and a hot desk office be created for those who want to work in a hybrid manner. We have resumed some small projects which were delayed as a result of the pandemic which will convert seminar rooms to PhD office space but this won't gain us any desk space as some of our</p> | ?? |

|   |  |  |   |  |
|---|--|--|---|--|
|   |  |  | <p>smaller offices are being allocated to new academic hires who we don't have offices for. The School aims to increase desk capacity in existing PhD rooms with objective to assign permanent desk to every eligible student (we could exclude students who have submitted in order to lower the number of desks needed). This will involve various changes to rooms and projects to change rooms and this will therefore take time. However, we consider this a priority as the current situation might lower our competitiveness in the PhD market.</p>  |  |
| 3 | <p>The review team recommends that the School consider the introduction of more academic / social events for PhD students, with specific attention to the current first year cohort in order to help in the catching up of any lost cohort building opportunities.</p> | Jan-Feb 2022   | <p>14 week response-</p> <p>There have been discussions about this and potential for an activity in January/ February for all groups has been identified. We think this would be a good time to hold an event as we would like to use it to encourage integration between year groups, especially between 1<sup>st</sup> years who are based in Bayes and other year groups based in JCMB. We have recently implemented an academic mentor system whereby all students have been allocated to a staff member from outwith their research group/ theme. The Graduate School will be monitoring participation in activities organised by the mentors who have been given a budget to run events for their mentees. It is hoped this will help with this recommendation.</p> <p>Year on response-</p> <p>It was not possible to hold a social event in Jan/Feb 2022 as there were still some pandemic related restrictions. However, the MIGS student conference has been moved and will be held in December 2023. This will involve all students who have just gone in to their second year presenting their first year reports. All staff and students will be able to attend and we are going to have social event afterwards. We will monitor participation and attendance at the MIGS conference and then decide whether to continue holding the event in December each year. Also from 2023 traditional Firbush annual trip to PhD students will resume.</p> | January 2023                                     |
| 4 | <p>The review team recommends that the School of Mathematics engage with and encourage all Schools and subject areas within the Kings Buildings campus to advocate</p>   | Completed for this academic year. We do not know the | <p>The reinstatement of the shuttle bus has been confirmed for academic year 2021/22.</p>   | Completed for this academic year. We do not know |

|   | to University Senior Management for the re-instatement of the Kings Buildings Shuttle Bus service.   | long-term answer.                       |   | the long-term answer.            |
|---|--|---|---|----------------------------------|
| 5 | The review team recommends that students should be explicitly advised and directed toward relevant sources of information on opportunities following from PhD study. | By the end of the 2021/22 academic year | <p>14 week response-</p> <p>The Director of the Graduate School and Manager met with the School's designated Careers Consultant to discuss ways in which we can better signpost to the Careers' Service and the resources available to students there. The Graduate School will add a section regarding this information on our intranet pages. The information has also been shared with the new academic mentors so that they have this when meeting with later year students who it will be especially relevant. The Graduate School Manager will make arrangements for mock postdoc interviews to be held for those interested in pursuing a career in academia in the summer of 2022. These will be run by the Head of School, Director of the Graduate School and the Careers' Consultant. We have also introduced a Teams site for students participating on our Industry stream where internships, work placements and job opportunities are posted. The School runs employability afternoons which PhD students are invited to attend. The School was given additional funding by EPSRC to fund fellowships for students who have just completed their PhDs- these fellowships have a particular focus on employability and it is hoped will help those who wish to pursue a career in academia.</p> <p>Year on response-</p> <p>Progress on this recommendation has been limited. The Graduate School has undergone personnel changes and restructuring which have meant that staff training has taken priority. The new introduction of the new finance system has also taken up a lot of administrative time. The Graduate School mentors are planning on running employability sessions focussed on careers in academia and industry. It is planned that the mentors will work with the training stream leads so that the sessions focus on aspects not covered by participation in stream activity such as adapting a CV for academic job applications, writing research statements, etc. The School is also liaising with the Scottish Mathematical Sciences Training Centre (SMSTC) to see if a module on employability could be reintroduced to their programme. The School's Business</p> | By end of 2022/23 academic year. |

|   |  |         |  |                                   |
|---|--|---------|--|-----------------------------------|
|   |  |         | Development team will also be consulted for the session on careers in industry.  |                                   |
| 6 | The review team recommends that the School consider reintroduction of tutor peer review, the implementation of continued tutor training in higher years, and the development of computer lab specific training | Ongoing | <p>14 week response-</p> <p>The school is beginning to change how it supports and mentor tutors, as well as postdocs who are teaching and new members of staff. It is expected that a new approach to this will be rolled out over the summer.</p> <p>Year on response-</p> <p>Specific training for tutoring programming / computer workshops has been introduced as part of the tutor induction from September 2022. Peer observation is embedded within the Teaching stream (year 1 observing year 2) and it is hoped that we can roll it out more generally to all tutors but this depends on workload capacity.</p>                       | Semester 2, 2022/23 academic year |
| 7 | The review team recommends that the School explore training tutors around the pedagogical use of technology in enhancement of the student experience   | Ongoing | <p>14 week response-</p> <p>Our new tutor meeting and general tutoring meetings have had some focus on specific technology to support the tutors with the new technology that we now use. With the continuation of the pandemic we have not yet reached a near-stable state in understanding what technology we use and when, and so this is still work for the future.</p> <p>Year on response-</p> <p>Tutors receive training and support on all technologies they are asked to use on each course. However, as technologies are constantly changing so too is what we use and how we use them. This, therefore, will always be ongoing.</p> |                                   |
| 8 | The review team recommends that the School explore extending the good practice of initial meetings with tutors and course organisers to other appropriate courses.   | Ongoing | <p>14 week response-</p> <p>The School's Tutor hub outlines what is expected of tutors and also what support Course Organisers are expected to provide. Course Organisers are encouraged to hold meetings with their tutors at the start of each teaching bloc to go through the arrangements and when these meetings are held, tutors are able to claim hours for them so that they are paid.</p>   | Completed                         |

|    |   |           |   |            |
|----|---|-----------|---|------------|
|    |   |           | <p>Year on response-</p> <p>It is not always possible to hold course meetings with all tutors as some happen before all tutors are allocated. However, each course VLE page has a content area where course organisers are able to share course specific information and advice for tutors.</p>   |            |
| 9  | The review team recommends that the School consider the introduction of a standardised set of information about courses for tutors.   | Completed | The School has introduced a “Tutor Hub” section on the website which all tutors have access to. It contains all the information needed to undertake tutoring work in the School. From how to get a contract to what work they have been allocated. All tutors are directed to this as the Golden Copy so that everyone has the same information and guidance.   |            |
| 10 | The review team recommends that the School of Mathematics reflect on all of the changes that have taken place due to Covid-19, and consider whether there would be benefit in maintaining any of these changes going forward. | Ongoing   | <p>14 week response-</p> <p>The School has seen greater online participation in conferences and workshops and will continue to encourage this as part of our commitment to becoming more sustainable. Within the exam process, there has been a move towards online vivas becoming the norm which the School will also continue to encourage as it means there are no travel costs for external examiners to come to Edinburgh in person. However, if the student and supervisor feel strongly that an in person viva is preferable then this will be allowed. Our industry stream has also seen greater participation from industrial partners in online events as the time commitment to attend is not as great. They will be continuing to promote this by running online and in person events. The School has also invested in equipment and capacity for hybrid seminars (subject seminars and working seminars).</p> <p>Year on response-</p> <p>We continue to encourage students to participate in online opportunities but with the relaxation of Covid related travel restrictions, we have seen an increase in the number of requests to travel to conferences, workshops and seminars. Students and supervisors feel that there is more benefit in attending in person. Vivas continue to be held mostly online which is felt to be a huge benefit as there are no travel costs but there is also more freedom in the choice of external examiner. We will also continue with</p> | Completed. |

|                           |  |   |
|---------------------------|--|---|
|                           |  | hybrid events with industry partners as participation is much higher.   |
|                           | Please report on steps taken to feedback to students on the outcomes of the review | Students participated in review meetings and the recommendations were communicated to them at the time of the review. The School's response to each recommendation has had student input at all times. The Graduate School meet monthly with our student reps who   |
| For Year on response only | Any examples of a positive change as a result of the review                        | <ul style="list-style-type: none"> <li>• PhD programmes in the School are currently for a prescribed period of three years with an additional year to write up. Since September 2020, the School has provided four years funding to all funded students in line with the EPSRC decision to increase its funded period to four years. Creation of a PhD programme which is four years in length will allow us to recognise this shift and that most projects are written to be completed within the four years funded period. The difference in prescribed period and funded period also causes confusion for students and academics so ensuring the programme length matches the funded period means that there will be less confusion. Projects should be written to be achievable in 4 years but the reality is that most will go into a write up year. However, now for our students this means applying for an extension which affects our completion rates which can affect funding from UKRI.</li> <li>• There have been very positive changes in how the School collates and provides information to our tutors. The creation of the tutor hub means that information is kept in one place and students know there is a repository of all the relevant information they need in order to carry out their tutoring role. All courses now have a VLE where information and advice is shared with everyone involved.</li> <li>• The Graduate School mentors are actively involved in planning and arranging activities for our students which will help address specific concerns around their opportunities after they finish their PhDs.</li> <li>• Technologies such as Teams and Zoom which have become widely used after the pandemic mean that we can be more flexible in our approach to delivering teaching, supervising students and access to workshops, seminars, etc. We routinely deliver events on a hybrid basis which wouldn't have been possible without the advances made during the pandemic. Online vivas are also very positive, now that most take place online it means that we aren't restricted in who we invite to be an external examiner. We can choose solely on who is most expert in the field. We don't have to pay travel costs and there are no visa issues.</li> </ul> |