



Periodic Subject Review (PSR)

Review of the School of Mathematics and Statistics held on 17 and 18 March 2016

Report Summary

The following is a brief summary of the full report of the review carried out in the School of Mathematics and Statistics. *Periodic Subject Review* is an internal subject review focused on the quality of provision as experienced by students. The review looks at the range of programmes, course content, the teaching methods employed, assessment, facilities and much more.

The full report of the review is available publicly at:

http://www.gla.ac.uk/media/media_484834_en.pdf

Further information about the PSR process can be found at:

<http://www.gla.ac.uk/services/senateoffice/gea/periodicsubjectreview/>

Italicised words are explained in a glossary below.

Conclusions

It was evident to the Panel that the School provided a supportive and friendly learning environment, managing to take into account two distinct subject areas, with Statistics being a smaller and cohesive subject with a strongly engaged student body and Mathematics, covering a substantial range of programmes and therefore dealing with a bigger and more diverse student population. From the meetings undertaken as part of the Review, the Panel had a general sense of a coherent, engaging School for its staff, students and GTAs. The School was committed to providing a wide range of degree programmes whilst undertaking a number of initiatives to enhance learning and teaching provision. The School was strongly committed to *outreach* activities as well as further developing its international portfolio. The School was responsive to student feedback having established good feedback mechanisms and linking this to other quality processes such as *annual monitoring* and annual teaching reviews. The previous six years has seen a great deal of change and transition for the School and the Review Panel commends the School for its excellent practices and encourages it to continue its excellent work in enhancing the student learning experience.

Key Strengths (Commendations)¹

Enhancing the Student Experience: Supporting Students in their learning

- The careful review of the Advising system in order to provide a more responsive service to their students, whilst recognising the practical challenges the School faced in introducing a smaller number of Advisers. [Paragraph 4.3.7]
- The use of focus group meetings which encouraged both staff and students to discuss specific topics. [Paragraph 4.5.6]

Enhancing the Student Experience: Graduate Attributes and Employability

- The use of the Maths Ambassador Scheme. [Paragraph 4.4.11]

Enhancement in Learning and Teaching: Assessment and Feedback

- Both the formal and informal course feedback mechanisms in place [Paragraph 4.5.2] (but please see Recommendations 7 and 8)

Enhancement in Learning and Teaching: Use of technology and innovation

- The level of innovation being introduced, transforming how undergraduate Mathematics and Statistics was taught. [Paragraph 3.2.1]
- The Panel was impressed with and highly commends the use of technology to deliver learning and assessment. [Paragraph 5.1.8]

Enhancement in Learning and Teaching: Curriculum design

- The attention given to curriculum design and commends student consultation undertaken during curriculum reviews and continued consultation following introduction of revisions made [Paragraphs 5.1.1 and 5.1.2]

Context and Strategy

- The vision and effort by the School in its breadth and range of provision, although it recognised that student numbers were limited in relation to collaborative provision. [Paragraph 3.1.1]

Enhancement in Learning and Teaching: Supporting staff

- The mentoring arrangements adopted for all new members of staff. [Paragraph 5.2.2]
- The level of support given to new staff prior to arrival. [Paragraph 5.2.3]
- The level of support provided to their GTAs and the use of peer observation in Statistics to help Graduate Teaching Assistants develop their teaching skills. [Paragraph 5.2.9 and 5.2.10]
- The use of and support given by the administrative and IT staff was highly commendable. [Paragraph 5.3.3]

¹ Numbers refer to the paragraphs in the full report that contain the relevant discussion.

- Work undertaken, to date, in merging some processes, such as the combined examination system, whilst acknowledging the distinctiveness between the subject areas. [Paragraph 3.1.3 and 5.1.13]

Areas to be improved or enhanced

Enhancement in Learning and Teaching: Assessment and Feedback

- Staff should be encouraged to consider new teaching and assessment techniques, taking into consideration the evolving educational landscape. [Paragraph 5.2.7]
- Whilst sympathetic to constraints caused by infrastructure and aware that limited student engagement in mathematics tutorials was a universal problem and not restricted to Glasgow, the School should consider further ways to engage students within tutorials.
- The School should take into consideration some of the suggestions raised by the students, in relation to breadth of style as well as good practice already established within the School (such as co-opting the students with tutorial design). [Paragraph 4.4.5]

Enhancement in Learning and Teaching: Feedback and closing the feedback loop

- Where action was taken to resolve issues, this should be clearly evidenced and communicated to the students. [Paragraph 4.5.3].
- The reasons for not introducing a standard policy on the provision of solutions should be clearly communicated to students, including an explanation of why, in some instances, it was beneficial not to receive them, thus ensuring closure of the feedback loop. [Paragraph 4.5.4]
- Additional informal mechanism for obtaining feedback at the beginning of a course used by some members of staff be considered for adoption across the School. [Paragraph 4.5.2]

Enhancing the Student Experience

Graduate Attributes

- Whilst acknowledging that students were obtaining a range of *graduate attributes*, these tended to be specific to particular programmes or tailored courses. The School should consider ways of ensuring graduate attributes are embedded throughout the curriculum, in a manner which is clearly identifiable to the students. [Paragraph 4.4.9]
- Consider offering a showcase event for Final Year undergraduate students, such as a poster presentation and/or talk session of their research projects or conference, thus providing an opportunity for both the students to display their work as well as provide a platform for the School to highlight a major success. [Paragraph 5.1.14]

Context and Strategy

- Continue to develop a strategic approach to quality enhancement, adopting a more systematic approach to the sharing and dissemination of good practice between colleagues in Mathematics and Statistics. [Paragraph 3.1.3]

- Consider establishing a more formal relationship with 'client' subjects and Engineering to discuss teaching provision and possible alternative ways to support students from outside of the School [Paragraph 3.2.4].
- Client subjects should be given an opportunity to provide feedback in any review undertaken. [Paragraph 5.1.1]

Enhancement in Learning and Teaching: Supporting staff

- Consider mechanisms for ensuring that all staff developing and introducing new methods of teaching continue to be recognised. [Paragraph 3.2.1].
- Whilst fully endorsing the introduction of peer review for new staff, the Panel recommends that the School considers a reflective and structured process for all staff, including established academics, with parameters established which would allow the School to recognise excellent teaching, promote good teaching practice as well as provide developmental and supportive measures. [Paragraph 5.2.2]
- The *Academic Development Unit* should give consideration to introducing further cohorts to allow all new members of staff to enrol on the *PGCAP* when they first commence at the University. [Paragraph 5.2.6]

Enhancement in Learning and Teaching: GTA support

- The Panel commends the use of peer observation used in Statistics to help Graduate Teaching Assistants develop their teaching skills and recommends that Mathematics considers adopting this good practice.
- Establish more formal aspects to GTA support to ensure both sets of GTAs received the same level of assistance. [Paragraph 5.2.10].
- Any additional information provided to Statistics GTAs should also be provided to Mathematics GTAs. [Paragraph 5.2.11]

Academic Standards: Examination Board procedures

- The standard practice of student anonymity should be applied at Examination Boards, where practical, following University policy. [Paragraph 6.6]

Enhancing the Student Experience: Recruitment

- The *Senate Office* to bring the issue of recruitment material to the attention of the Marketing, Recruitment and International Office and the issue of limited flexibility of choice between Colleges to *Academic Standards Committee*. [Paragraph 4.1.1]

Glossary

Academic Development Unit

The Academic Development Unit is part of the Learning and Teaching Centre, providing support for learning, teaching and assessment across the University, including delivery of credit and non-credit bearing professional development programmes.

Academic Standards Committee (ASC)

The Academic Standards Committee is a sub-committee of Education Policy and Strategy Committee (EdPSC), a key functional committee of the University. The role of the Academic Standards Committee (ASC) is to assist EdPSC in its implementation of the University's Learning and Teaching Strategy, through assurance and enhancement of the quality of educational provision and through maintenance of standards. ASC reports to EdPSC, and also approves proposals for undergraduate and postgraduate taught degree programmes on behalf of EdPSC and Senate.

Annual Monitoring (of courses)

Annual Monitoring is a process undertaken at the end of each session by Course or Programme Leaders designed to encourage reflection on the operation of course and programmes – what went right, what could be improved, what students did and didn't like etc. – with a view to enhancing the student experience next year. The work done by the course or programme leaders is followed by a full reporting process through Schools and Colleges to Senate, with responses being made, as appropriate, at each level. The reporting procedure is designed to ensure that issues arising from monitoring are properly considered and responded to, and that enhancements and the sharing of good practice are promoted. Annual monitoring reports are reviewed by Periodic Subject Review Panels as part of the documentation provided by the Subject(s)/School.

Graduate Attributes

[Graduate attributes](#) are the skills, knowledge and qualities or attitudes developed by individuals through their programme of study that they will use to contribute effectively in work or other aspects of society in the future.

Graduate Teaching Assistant or GTAs

Graduate Teaching Assistants, Tutors and Laboratory Demonstrators are students, usually research students, who assist with teaching in the form of tutorials, labs and other activities that are part of undergraduate programmes in the subject/school. They are paid an hourly rate by the University.

Outreach

Outreach provides services to populations who might not otherwise have access to those services.

Periodic Subject Review or PSR

The University has a six yearly cycle of review of the Subjects/Schools within it. The PSR is one of the main ways by which the University assures itself of the quality of the provision delivered by Subjects/Schools.

PG CAP

The Academic Development Unit provides two credit bearing programmes for academic members of staff: the Postgraduate Certificate in Academic Practice (PGCAP) and the MEd in Learning and Teaching in Higher Education (online).

Senate Office

The Senate Office oversees the University's compliance with national and international quality assurance and enhancement requirements and has responsibility for academic governance and its coordination, developing and implementing a range of policies and processes and supporting Senate and University Committees. The Senate Office provides a range of academic services to staff and students across the University and to a number of external bodies as well as members of the public.