UNIVERSITY OF GLASGOW

Academic Standards Committee - Friday 12 February 2016

Periodic Subject Review: Responses to Recommendations Arising from the Review of the School of Chemistry held on 5 March 2015

Ms Helen Clegg, Clerk to the Review Panel

Recommendations

The following recommendations have been made to support the 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 ranked in order of priority.

Recommendation 1

The Review Panel recommends that the School renews its dialogue with College Management with a view to forming a clear vision for the future shape of the School that is aligned to the College's strategic plans for the future. This should include consideration of the physical estate and the School's plans for growth. School, College and University engagement is critical in order to support the School's vision. *[Paragraph 3.1.5].*

Action: Head of the College of Science & Engineering;

Head of the School of Chemistry

Response – Head of School:

The School SMG has met with the Head of College and an outline plan for the redevelopment of the Joseph Black Building and possible new build extension has been set up.

Response – Head of College:

A Project Board for estates development has been set up (January 2016).

Recommendation 2

The Review Panel recommends that the School work with the College to reach a mutually acceptable position in relation to the provision of teaching support. In this respect, it would be appropriate to review the person specification and remit for the proposed Teaching Administrator post and, if possible, engage an experienced Teaching Administrator on short secondment from elsewhere in the College to consider the feasibility and suitability of the proposal. This would help to build the evidence base for future support. *[Paragraph 5.4.2].*

Action: Head of the School of Chemistry

For information: Head of the College of Science & Engineering

Response:

A full-time post of Learning and Teaching Administrator for Chemistry was created and filled on 6th January 2016.

Recommendation 3

The Review Panel recommends that the School works with the Learning & Teaching Centre to develop appropriate, structured training of GTAs for their demonstration duties, and that GTAs must have practiced the related laboratory experiments prior to the demonstration. GTAs should also be provided with feedback on their performance and receive clear guidance on marking to ensure consistency with the other markers. *[Paragraph 4.3.5].*

Action: Head of the School of Chemistry

For information: Director of the Learning & Teaching Centre

Response:

GTAs are now required to perform the laboratory experiments prior to demonstrating them in the laboratory. A feedback mechanism to give GTAs guidance on their performance is being piloted in academic year 2015-2016 with guidance from staff in the LTC. Marking schemes for laboratory reports have been revised to ensure consistency between markers.

Recommendation 4

The Review Panel recommends that the School give consideration to means of embedding the development of mathematical skills, with a chemistry application, throughout the undergraduate curricula. Consideration should be given to means of identifying the varying skill levels in first year in order to tailor mathematics teaching, and full detail of the derivations of mathematical solutions should be posted on Moodle for students to consult, further supporting their learning *[Paragraph 4.3.3].*

Action: Head of the School of Chemistry

Response:

The format and content of maths support provision for our undergraduates has been evolving since a significant realignment of Physical Chemistry teaching, which took place during academic year 2010-2011; this is still ongoing with feedback from students and staff informing updates that have been implemented

Since the PSR the following developments have taken place;

- A Maths Working Group has been formed to re-evaluate more comprehensively our current maths support provision and to form a strategy for implementation moving forwards.
- Derivations and all supporting lecture notes are now available to students through Moodle for the Quantum Mechanics and Mathematics for Chemists course.
- The School of Chemistry is working closely with SLS and is carrying out a pilot project during 2015-2016 where we are providing support/revision sessions delivered in lecture format by Shazia Ahmed. Although these sessions will be open to all 3rd-year students studying on chemistry degree programmes (approximately 70 students), the expectation is that they will mainly be attended by students with little formal mathematics training and those who are less confident about their abilities. One aim of this project is to assess the

popularity and effectiveness of these pre-tutorial support lectures with the view to increasing the number provided in future years.

- During academic year 2014-2015, Moodle was utilised to deliver maths support material to all level 2 Chemistry students via a series of maths support exercises coupled with compulsory Moodle quizzes for immediate self-assessment. Student response to this was overwhelmingly positive (92%) and the students felt that this online approach was helpful. This provision has been repeated during academic year 2015-2016 with the view to moving it to level 1 during 2016-2017. With this maths provision being removed from level 2 from 2017, it is expected that new materials (of a more complex standard) will be developed to bridge the difficulty gap to that of the maths material delivered to level 3 students.
- Currently Mathematics is not a prerequisite subject for those prospective students applying through UCAS to study a Chemistry degree at the University of Glasgow. From 2017 entry, a minimum of Higher Mathematics at grade B, or equivalent, will be required.
- Two new experiments have been specifically developed – one each for the 1st Year and 2nd Year labs - to provide our students with the opportunity to practice and apply statistical concepts to practical chemistry.
- Currently, there is a multi-disciplinary group from the Schools of Chemistry and Mathematics and Statistics and the Student Learning Service discussing the possibility of developing a diagnostic resource for students. The expectation is that this resource would be used at an early stage to test our students' maths proficiency and where it is identified that further support is required. This may be provided via a blended learning environment. In providing this resource, the intention is that all students, regardless of their pre-university maths qualifications, will be elevated to a sufficient level of aptitude and confidence.

Additionally, we foresee that a resource of this form may prove important after 2017 for any students wishing to transfer to a Chemistry degree from another degree program which did not require Higher Mathematics for entry to the University of Glasgow through UCAS.

Recommendation 5

The Review Panel recommends that the School ensures all undergraduate students are prepared for writing a dissertation by introducing a compulsory element of essay work, either via the Frontiers of Chemistry course or a revision to an existing course to include an essay element, or by means of an essay marking exercise *[Paragraph 4.3.7].*

Action: Head of the School of Chemistry

Response:

All students are required to take a diagnostic writing test set up by Jennifer Boyle, the SLS effective writing adviser, and are encouraged to attend support workshops run by the SLS as appropriate. Workshops on writing skills are given to all final year students (BSc (Chemical studies), BSc honours and MSci) by Natalie Sheridan of the SLS. Essay marking exercises have now been set up and will be available to all students in academic year 2016-2017.

Recommendation 6

The Review Panel recommends that, if desired by the School and considered feasible, the School re-introduce a system whereby all students are offered enrolment meetings with their Adviser of Studies, in order to prevent difficulties with unsuitable course choices and levels. This is embedded practice elsewhere in the University and the School could draw on this experience *[Paragraph 4.3.11].*

Action: Head of the School of Chemistry

Response:

All new students are now offered enrolment meetings with their advisers of studies.

Recommendation 7

The Review Panel recommends that the School reviews the current extent of organic chemistry provision and, if appropriate, takes steps to improve the balance of options available to students. *[Paragraph 5.1.6].*

Action: Head of the School of Chemistry

Response:

The School has reviewed the balance of options in organic chemistry provision available to students and has concluded that the balance is appropriate.

Recommendation 8

The Review Panel recommends that the School reviews Nuclear Magnetic Resonance teaching at levels three and four and, if appropriate, takes action to remove unnecessary duplication of material. *[Paragraph 5.1.7].*

Action: Head of the School of Chemistry

Response:

The School has reviewed Nuclear Magnetic Resonance teaching at levels three and four and removed unnecessary duplication of material.

Recommendation 9

The Review Panel recommends that the School has dialogue with the College and the Recruitment & International Office, with a view to producing video testimonials of the current postgraduate students for use in recruitment to the Masters programmes *[Paragraph 4.1.6].*

Action: Head of the School of Chemistry

For information: Head of the College of Science & Engineering;

Director of the Recruitment & International Office

Response:

The production of video testimonials was intended to take place during summer 2015 while the students were working on their lab projects. Due to timing conflicts between the College Recruitment and Marketing team and the video production unit, this could not be realised. Instead written testimonials were collected from the 2014/15 class. It is now planned to produce video testimonials during the 2016 summer projects.

Recommendation 10

The Review Panel recommends that the School provides out-of-hours access to the Branch library for all taught postgraduate students *[Paragraph 5.4.7].*

Action: Head of the School of Chemistry

Response:

All taught postgraduate students now have out-of-hours access to the Chemistry Branch Library.