

University of Glasgow**Academic Standards Committee – Friday 27 May 2011****Periodic Subject Review: Update Report for School of Chemistry –
Progress Review Visit held on Wednesday 23 February 2011****Ms Fiona Dick, Clerk to the Review Panel****Review Panel**

Professor Steven Beaumont	Vice Principal (Research and Enterprise), Convener
Mr Matt Morrison	Students' Representative Council
Dr Rob Aitken	School of Life Sciences, Cognate member
Dr Olwyn Byron	Senate Assessor on Court
Dr Vicky Gunn	Learning & Teaching Centre
Ms Fiona Dick	Senate Office, Clerk to Review Panel

1. Background

- 1.1 A report on responses to the recommendations arising from the Report of the Review of Departmental Programmes of Teaching, Learning & Assessment of the Department of Chemistry held on 10 and 11 March 2009 was forwarded to Academic Standards Committee (ASC) at its meeting on 8 October 2010 (Appendix 1). It was noted that the report had been considered by the Convener of the Review Panel, who had encouraged the new Head of School to progress the open issues by the time of the return visit on 23 February 2011.
- 1.2 The response from the School of Chemistry had included a request for guidelines in respect of the documentation required in advance of the return visit. Review Panel members met on Wednesday 24 November 2010 to consider the scope and format of the progress review. During this meeting they acknowledged the dedication and progressive attitude of staff and the focus on research-led teaching encountered during the initial visit in 2009. Members considered the responses to the recommendations and agreed the format for the visit scheduled for 23 February 2011 which included:
 - The preparation and submission of a Progress Report and supporting documentation, which would focus around the 'open' issues: recommendations 3, 4, 5, 9 and 10 and detailed in Appendix 2;
 - A review of the Progress Report and documentation by the Review Panel;
 - A visit by the Review Panel to meet with Chemistry staff and students, including meetings with the Head of School, Head of Teaching, Level 3, 4 and 5 undergraduate students, members of the School Teaching Committee, Head of College and Dean (Learning & Teaching) for Science and Engineering;
 - Production of a Update Report by the Review Panel, which would be forwarded for consideration by the Academic Standards Committee at its meeting on Friday 27 May 2011.

- 1.3 The School Progress Report and supporting documentation were prepared by Professor Bob Hill (Head of Teaching).

2. School of Chemistry Progress Report

The Progress Report included details of the School's Teaching Development Strategy for 2010-2014: the School's vision of teaching provision; how aims aligned with College and University strategic goals; distinctive aspects of teaching provision; future challenges; potential areas of vulnerability; curriculum reviews; progression issues; development of PGT cohort; viability/ marketability of programmes on offer; funding of future initiatives; assessment and examples of good practice. It was noted that supporting documentation provided details of the School Teaching Committee's membership, remit and copies of previous minutes (since the last review in March 2009).

3. Review Visit on 23 February 2011

- 3.1 The Review Panel met with the Head of College of Science & Engineering, Professor John Chapman; the Dean (Learning and Teaching) for the College of Science and Engineering, Professor David Fearn; the Head of School, Professor Stephen Clark; and the Head of Teaching, Professor Bob Hill. The Panel met with 12 members of the Teaching Committee and 9 undergraduate students, representing levels 3, 4 and 5 of the School's provision.
- 3.2 It was noted that the focus of the review would be the 'open' issues: recommendations 3, 4, 5, 9 and 10.

4. Operation and Remit of Teaching Committee

Recommendation 3: The Review Panel recommends that the Department clarify the remit of the Teaching Committee to include: the development and implementation of a Teaching Development Strategy for the next 5 years; reviews of the curricula and sustainability of courses; progression issues; the development of Postgraduate Taught (PGT) courses; and consideration of the effectiveness and attractiveness of the full range of programmes on offer. Any curriculum review should be conducted with reference to guidance and advice from University Services, such as the Learning & Teaching Centre and the Equality & Diversity Unit.

- 4.1 It was noted that Dr Louis Farrugia had taken over the chair of the School Teaching Committee (TC) in October 2010. Panel members were pleased to learn from TC members that the committee operation had benefited from the implementation of the new Teaching Development Strategy for 2010-14 and within the context of external requirements/recommendations through the Royal Society of Chemistry (RSC). Staff also acknowledged the clear steer from the Head of School to improve communication within Chemistry and College/University to represent and drive forward the best interests of the School. Panel members were pleased to note the successful accreditation of the School in December 2009 by the RSC.
- 4.2 The Review Panel was encouraged to note from the Progress Report that the Teaching Development Strategy had articulated the School's vision for 2010-14, with clear goals for the continuing development of teaching delivery to improve efficiency by reshaping and streamlining undergraduate courses, despite significant infrastructure and funding constraints.

Teaching Development Strategy

4.3 The Head of School reiterated the School aspirations: to increase the quality of undergraduate and postgraduate provision; to equip students with the appropriate and transferable skills to successfully compete for the best jobs, during a period of economic restraint; whilst meeting standards required by External Examiners and the RSC. It was noted that School strategic goals aligned with both the College and University Strategies. The Progress Report-Section 1 had included an outline of the School Teaching Development Strategy and the Head of School further elaborated on details of the primary aspects, which included:

- An expansion of the taught Masters programmes in line with College KPIs/ GU internationalisation agenda. It was noted that the School was happy to continue to develop collaborations, focussing on what could be realistically offered by assembling from existing courses, to ensure efficient delivery (see Section 4.1.9);
- Continuing to select and retain quality undergraduate students by raising entry requirements and in particular ensuring smoother transition between levels two and three (considered in more detail in Section 5);
- Assessment and feedback: improvement of assessment and examination procedures to maximise individual potential (discussed separately in Section 7), particularly in 'non-traditional' assessments such as project/essay work (see Section 8);
- Placements: to increase availability, diversity and quality of industrial and overseas placements for MSci students. Confirmed important part of strategy but cognisant of funding challenges, as UK industry was not currently in position to meet demand (see Section 4.1.5);
- Development of outreach events to support the teaching of chemistry in schools and continue to attract high quality applicants: large suite of local and national events but again there are financial limitations;
- Pastoral Support: to meet challenges of Student Lifecycle Project (SLP) particularly in respect of training requirements of new advisors and cognisant of need to maintain provision of high quality pastoral care.

4.4 The Review Panel was keen to explore what the School considered their distinctive marketable strengths, within the wider context of the West of Scotland and the UK. The Head of Teaching confirmed that the School was proactive in its promotion of its research strengths and utilised the media to target parents of potential students by profiling the work of research 'stars' such as Professors Lee Cronin and Duncan Gregory.

Programme Review

4.5 The Review Panel noted from the Progress Report that the School were entering a period of consolidation, in response to limited availability of teaching space, particularly undergraduate teaching laboratories, and a central government funding cap. A strategic decision to narrow the suite of programmes offered in terms of courses that are deemed unsustainable within the current funding climate had

resulted in plans for the phased withdrawal of Chemistry with Forensic Studies and Environmental Chemistry programmes.

Appointment of Chairs

4.6 The Review Panel noted that three Environmental Chemistry members of staff, including two Chairs, were due to retire in two years and the School were currently considering plans for their succession. Panel members noted plans to refocus one chair in Chemistry with Medicinal Chemistry, as there were strong indications of increased demand for core aspects of Chemistry (Chemistry and Chemistry with Medicinal Chemistry) due to recent proliferation of smaller/medium companies. Members learned that the appointment of the other chair planned for Chemistry/Biology presented a dilemma in terms of the desirability of a strong research profile and the resulting potential for limited teaching contribution, and how this would impact on core teaching coverage. Teaching Committee members also pointed out that with the Faculty/College Entry system it was imperative to attract students with inspirational teaching and learning experience, so ideally appointments would have both teaching as well as research profiles.

Projects

4.7 The Progress Report considered the recent NSS results in relation to students' 'considerable dissatisfaction' with the School's allocation of projects for BSc honours students, and specifically the lack of research projects available, which was due to limited availability of: laboratory space; demonstrators; equipment (in particular fume hoods) and teaching space. Several students who met with the Review Panel confirmed that they were undertaking literature-based projects as they had not been successful in their application for research-based study and were worried that this might reduce their employment opportunities. Students were also unclear of the project allocation criteria and concerned that these were not being applied consistently.

4.8 The Head of Teaching confirmed that, since large-scale investment was unlikely, the School had taken steps to forewarn students earlier in Level 3, thereby extending the period for project planning. There was a suggestion from the Panel that the allocation of research/literature-based projects could be clarified via Moodle and/or the student handbook. The Panel acknowledged that student's computational/writing skills were a factor in determining the appropriateness of research versus literature-based projects and suggested that the School should consider exploring opportunities in research-based laboratories furth of the Joseph Black Building. The Review Panel **encouraged** the School to continue to consider alternative ways to meet demand and to ensure that the process of project allocation was transparent and consistent.

Placements

4.9 Students who met with Review Panel were very enthusiastic about industrial placements, which they considered provided an ideal opportunity to broaden their learning experience and prepare them for future employment. As a consequence of the current poor economic climate, there was concern amongst the students and staff regarding the School's ability to continue to offer industrial placements. Students were therefore being encouraged to consider various options, including Erasmus, although the School recognised that fees and support with living costs varied and financial mechanisms needed clarified at an institutional level. The Panel noted that the School was actively pursuing new links with France, Spain,

Finland, Germany and China/India. The Convenor of the Panel suggested that the issue of the availability of overseas placements could be considered through the University's Internationalisation Committee. The Review Panel **encouraged** the School to consider alternative work placement opportunities, including local placements and non-traditional companies. The Head of School confirmed that he had found the feedback/comments useful and the School would continue to explore the wide range of placement options currently available.

Postgraduate Taught Programmes

- 4.10 The School recently introduced PGT programmes for an MSc in Chemistry and MSc in Chemistry with Medicinal Chemistry and are collaborating with the University of Strathclyde for an MSc in Environmental Science. The Head of Teaching confirmed that there had been one conversion from three applications last session but the School were encouraged by a significant increase in applications this session (46 to date, with nine accepted places). Review Panel members also learned of plans next session for a joint MSc degree for Chemistry with Engineering. It was noted that the School had considered the potential impact on pastoral support required and the need for staff training to create a pool of committed Advisors was being addressed. The Head of Teaching confirmed that the School was currently liaising with Professor Jon Cooper, Dean of Graduate Studies, to further discuss future potential of PGT uptake.

Internationalisation

- 4.11 The Review Panel members were pleased to note the School's on-going negotiations through the Principia Consortium: a group of twenty North American Colleges, who are sending approximately twenty pre-medical students to University of Glasgow, on an annual basis, to study anatomy and organic chemistry. It was noted that the School hoped that the development of collaborations in North America might also increase placement opportunities.

Individual Laboratory Experience

- 4.12 The Review Panel was keen to explore the availability of individual laboratory experience for students and was pleased to note that it was now offered across programmes in Level 4, was split across Level 3 and that students appreciated the opportunity. It was noted that although the School had benefitted from a new synthesis laboratory and £50k in extra funding, (for equipment and consumables), the investment had a limited effect and there remained an acute shortage of teaching accommodation, equipment (particularly fume cupboards) and demonstrators. There was a detailed discussion around possible solutions including: curtailment of laboratory time to increase the opportunity for individual experience although this would not solve the equipment issue; installation of extra fume-cupboards which would reduce bench space; and the development of PhD studentships that included demonstrator duties. It was noted from the Head of College that the Graduate School Committee was considering similar PhD studentships. The Head of School confirmed that the provision of individual laboratory experience was currently the biggest challenge facing the School and their ability to respond would require careful consideration, given the complexity of issues involved and the ongoing financial constraints.

Administrative Support

- 4.13 It was noted from the Progress Report that the administrative load for teaching staff was high and in particular for the Head of Teaching. Review Panel members were therefore disappointed to learn that the appointment of a School Administrator had been indefinitely postponed due to the recruitment freeze. The Head of School worried about the Head of Teaching, both in terms of the impact of the heavy workload and succession management given his forthcoming retirement, which could put the School in a vulnerable position. It was noted that in the restructured model, College administrative support was still bedding down and the current provision is ad-hoc at best. There was consensus amongst Panel members that effective relief of the current burden on the Head of Teaching would require an administrative role that was creative, reflective and strategic and it was noted that with release time generated for grant applications by staff, the position could self-fund.
- 4.14 The Head of College, although sympathetic to the School's need for administrative support and in particular the need to provide relief for the Head of Teaching, detailed a dynamic set of factors which needed to be taken into consideration, including: the phased introduction of the Student Lifestyle Project (SLP) which would hopefully alleviate the administrative load; the Voluntary Severance Early Retirement Scheme (VSER) currently in operation; and the feasibility of a new appointment in the current economic climate. It was noted that the College decision would be subject to SLP bedding in and the outcome of VSER. Panel members were concerned that with inevitable delays: VSER open till the end of February 2011 and SLP not likely to be fully operational for up to eighteen months, there was a need for an interim administrative support that was appropriate and sustainable. The Head of College agreed interim administrative support was required and he was confident that the College was within distance of finding a solution. The Review Panel remained strongly supportive of the previous recommendation to reduce the heavy workload of Head of Teaching and **encouraged** the College to continue its efforts to provide an immediate, appropriate and sustainable model to reduce the administrative load on the School's teaching staff and in particular for the Head of Teaching.

Student Feedback

- 4.15 It was noted that student feedback through the Student Staff Liaison Committee (SSLC) was mostly positive and confirmed by the students who met with the Panel, who felt that the School was 'listening' and reactive. Level 4 students cited examples of improvements now benefitting Level 3 students, which they considered were a direct result of their feedback. The Head of School confirmed that student feedback was essential and addressed systematically through the Teaching Committee. The Review Panel were pleased that the SSLC was operating effectively but in light of the recent poor National Student Survey (NSS) results for Chemistry **encouraged** the School to consider a more pro-active approach in canvassing student views/comments.

5. Review of Strategy for Enhancing Progression

Recommendation 4: The Panel recommends the Department should continue to review its strategies for enhancing progression through the levels, to deliver streamlined courses in a coherent way, with guidance from Academic Development Unit of the Learning & Teaching Centre and cognisance of other HEI's approaches.

- 5.1 Review Panel members noted from the Progress Report that due to accommodation and funding constraints, the School was liaising with the College to consolidate provision whilst attracting capable and highly motivated undergraduate students, by increasing entry requirements and 'increasing the barrier' for transition between Levels 2 and 3. Previously entry to Level 3 had been Grade D and had been raised last session to Grade C. It was noted that RSC had examined and approved progression as part of their accreditation visit in December 2009 and progression issues were central to recent review of Physical Chemistry Teaching, that were implemented in current session 2011-12. Panel members were also pleased to note positive feedback from industrial placement supervisors, which suggested that GU students compared favourably to other HEI students.
- 5.2 Students who met with the Panel were very positive about staff members, who were described as very friendly and approachable and that the level of support was appropriate and much appreciated. Both Level 3 and 4 students had found the transition to Level 3 challenging and suggested that the School might consider pitching Levels 1 and 2 higher to make transition smoother and their the development of their learning experience more consistent. The Review Panel **encouraged** the School to review its provision to facilitate the smooth transition through levels and cognisance of timetabling constraints.
- 5.3 A timetabling issue was noted in respect of joint degree students who were experiencing difficulty with conflicting course scheduling, and Panel members were keen for the School to address the problem in advance of the implementation of SLP. The Review Panel **encouraged** the School to ensure course timetabling was cognisant of scheduling requirements of joint degree students.

6. Incentivising/Funding of School Initiatives

Recommendation 5: The Review Panel recommends that the Dean and Head of Department should take time to explain to staff how Departmental innovation can be incentivised through investment and if necessary take up the issue with the Vice Principal (Strategy & Resources).

- 6.1 It was noted previously that the School has previously benefitted from 'end of financial year spend' to buy equipment/consumables and infrastructure development, through WestCHEM Research, and had a provided a professional modern synthesis laboratory. However the School was well aware that this funding was unsustainable and Teaching Committee members confirmed that they were actively pursuing sponsorship of experiments through industrial contacts/partners and/or alternative and as yet unidentified sources of funding.

7. Review of Assessment Feedback Processes

Recommendation 9: The Review Panel recommends that the Department continue its plan to review assessment feedback processes and to improve the timescales for and quality of the feedback provided to students. The Department should seek the support and guidance of the Learning & Teaching Centre at an early stage of its review.

- 7.1 It was noted from the Progress Report that the School had adopted the new Assessment Policy and assessment criteria was communicated to students through Moodle and student handbooks.

- 7.2 The Review Panel acknowledged the contribution of Dr Mary McCulloch from the Learning & Teaching Centre to provide support to the School, particularly in the areas of assessment and feedback. A rolling programme of improvements/initiatives by the School included: use of split final year papers which acted as increased scaffolding to support students through assessment and investigation of the potential of Intelligent Character Recognition format class tests to enhance feedback and assessment for use in Levels 1 and 2. Panel members were pleased to learn of plans to apply for support for the latter initiative through University's Learning & Teaching Development Fund priority: Technology Enhanced Learning and Teaching (TELT).
- 7.3 The Panel explored the feedback of assessment with students and was disappointed to learn that there was significant variation in terms of the timescale and quality of feedback received. The Head of Teaching pointed out that whilst consistent feedback was important it was always dependent on the slowest markers. Whilst there was evidence of progress, and strong engagement through the Teaching Development Strategy, Teaching Committee and Head of School, the Review Panel **encouraged** the School to consider a more systematic approach, in liaison with the Learning & Teaching Centre, to address issues of timeliness and quality of feedback.

8. Learning Support for Non-Traditional Assignments

Recommendation 10: The Review Panel recommends that the Department liaises with the Learning and Teaching Centre to identify good practice from other Departments to improve the preparation it gives students for non-traditional assignments.

- 8.1 It was noted from the Progress Report that the School had engaged with Ms Katie Grant with respect to the Advanced Academic Writing Skills project, particularly in respect of the potential to establish a Chemistry focussed version of this. The Teaching Committee confirmed that the School was keen to pursue the services of Ms Grant to set up essay writing website resource specific to chemistry students as soon as possible.

9. Conclusions

Members of the Review Panel were satisfied that all of the open issues: recommendations 3, 4, 5, 9 and 10, had now been addressed and that the School was on an upward trajectory. In particular, Panel members were pleased to find strong evidence of the development and implementation of a strategic plan that was cognisant of environmental challenges and their potential impact on learning, teaching and assessment. Staff members were clearly supportive of the Teaching Development Strategy and working together towards improved consistency of provision. There was also evidence that communication structures including the Teaching Committee were operating effectively and students had detected improvements in the School's response to their feedback.

The Panel identified areas for encouragement, which have been highlighted and included: increasing in number the research-based Level 4 projects offered; ensuring that the process of project allocation was transparent and consistent; development of work placement opportunities, including internal/ local placements and non-traditional companies; a more pro-active approach in canvassing student views/comments; and a more systematic approach, in liaison with the Learning

and Teaching Centre, to address issues of timeliness and quality of assessment feedback.

Finally the Review Panel remained strongly supportive of the previous recommendation to reduce the heavy workload of Head of Teaching and encouraged the College to continue its efforts to provide an immediate, appropriate and sustainable model to reduce the administrative load on the School's teaching leadership.

UNIVERSITY OF GLASGOW

Academic Standards Committee - Friday 8 October 2010

**Departmental Programmes of Teaching, Learning and Assessment:
Responses to the Recommendations arising from the Review of
Department of Chemistry held on 10 and 11 March 2009**

Ms Fiona Dick, Clerk to the Review Panel

Conclusions

Members of the Review Panel enjoyed their visit to the Department of Chemistry on 10 and 11 March 2009 where arrangements made for their comfort and the conduct of the meetings was exemplary. The Panel was impressed by the dedication and progressive attitude of staff and demonstrators within the Department, and with the focus on research-led teaching. The undergraduate students who met with the Panel were enthusiastic and very positive about their learning experience. However, the Panel noted that there were currently significant resource issues, planning developments and numerous curricula reviews underway or outstanding and felt that, given the state of change, a follow-up visit would be beneficial to allow progress to be monitored in detail. The Panel, **recommends** to the Academic Standards Committee that a return visit be made to the Department in two years time by a sub-group of the current Panel to review progress and ensure that issues noted in the above report have been resolved or are being moved towards resolution.

Recommendations

The recommendations interspersed in the report are summarised below. The recommendations have been cross-referenced to the paragraphs in the text of the report to which they refer. They are grouped by the areas for improvement/enhancement noted above and are ranked in order of priority.

Recommendation 1:

The Panel, **recommends** to the Academic Standards Committee that a return visit be made to the Department in two years time by a sub-group of the current Panel to review progress and ensure that issues noted in the above report have been resolved or are being moved towards resolution [*Conclusions*].

For the attention of: **Head of Department
Convenor, Academic Standards Committee
Senate Office**

Response: Head of Department

The School anticipates that as this return visit is unprecedented, guidelines will be provided from Academic Standards Committee and the Senate Office to ensure that the preparation of material for this visit does not adversely affect the quality of teaching within the School.

Response: Academic Standards Committee

This recommendation was approved by ASC at its meeting on Friday 2 October 2009.

Response: Senate Office

Arrangements are in place and the School of Chemistry will be re-visited early in 2011.

Recommendation 2:

The Review Panel **recommends** that the Department develops a strategic plan which clearly articulates key strengths within the wider environmental context (competitors, industry/economy and perceived demand) and how this would impact on future investment/direction in the teaching, learning and assessment of Chemistry. The Panel attached considerable importance to this recommendation and wishes it to be addressed forthwith, as many of the following recommendations depend upon it [*paragraph 4.8.1*].

For the attention of: **Head of Department**

Response:

The strategic plan for the teaching of chemistry is part of the Faculty of Physical Sciences Strategic Plan and now the School of Science and Engineering Strategic Plan. This plan continues to be developed in response to changes both within and outside the University environment.

[Clerk's note: To note Corporate Plan 2010-11 for Faculty of Physical Sciences was produced in April 2010]

Recommendation 3:

The Review Panel **recommends** that the Department clarify the remit of the Teaching Committee to include: the development and implementation of a Teaching Development Strategy for the next 5 years; reviews of the curricula and sustainability of courses; progression issues; the development of PGT courses; and consideration of the effectiveness and attractiveness of the full range of programmes on offer. Any curriculum review should be conducted with reference to guidance and advice from University Services, such as the Learning and Teaching Centre and the Equality and Diversity Unit [*paragraph 4.7.3*].

For the attention of: **Head of Department**
Director of Equality & Diversity
Head of the Academic Development Unit

Response: Head of Department

The School agrees with the Panel's suggestion for the remit of the Teaching Committee. Reviews have already taken place of the content of the degree programmes. The future of some of the undergraduate degree programmes has been discussed both within the Teaching Committee and with stakeholders and students. Plans have been drawn up for the withdrawal of some degree programmes (Environmental Chemistry; Chemistry with Forensic Studies) and rationalisation of teaching. Meetings have been held with Dr Mary McCulloch (Academic Development Unit, Learning & Teaching Centre) to discuss the issues and further meetings are planned. A meeting will be set up with the Director of the Equality and Diversity Unit for guidance. Two PGT courses (MSc Chemistry; MSc Chemistry with Medicinal Chemistry) are now in place. The Royal Society of Chemistry Accreditation panel visited in December 2009. The RSC panel recommended continued accreditation of the MSci degree programmes.

Response: Director of Equality & Diversity Unit

I'm satisfied with the Head of Department's response to Recommendation 3.

Response: Head of the Academic Development Unit

Dr Mary McCulloch (Academic Development Unit, Learning & Teaching Centre) made contact with the Head of School of Chemistry, Professor Stephen Clark to discuss ways in which she might assist the School to address actions from the former department's DPTLA. Professor Clark advised Dr McCulloch to contact Professor Hill

Professor Hill and Dr Mary McCulloch met to discuss all DPTLA actions with which the Learning and Teaching Centre can offer assistance. It was agreed that the School will invite Dr Mary McCulloch to attend the School's Learning & Teaching Committee meetings to discuss items relating to her expertise in learning, teaching and assessment. It was agreed that the School will invite Dr McCulloch to take part in all curriculum reviews. Dr McCulloch suggested that the School might find it helpful to set up a joint meeting with her and the Director of Equality and Diversity.

Recommendation 4:

The Panel **recommends** the Department should continue to review its strategies for enhancing progression through the levels, to deliver streamlined courses in a coherent way, with guidance from Academic Development Unit of the Learning and Teaching Centre and cognisance of other HEI's approaches [*paragraph 4.6.1*].

For the attention of: **Head of Department
Director of the Learning & Teaching Centre**

Response: Head of Department

The School agrees and is continuing to review its strategies. The course structure for final year has now been rationalised and streamlined to deliver material to the BSc Honours and MSci students without undue repetition of material while maintaining the difference in levels between the two streams. Rationalisation of teaching by withdrawing programmes in Environmental Chemistry and Chemistry with Forensic Studies will enable the School to concentrate on the core degree programmes at undergraduate and postgraduate levels. An initial meeting has been held with Dr Mary McCulloch (Academic Development Unit, Learning & Teaching Centre) to discuss strategies for student progression. Future meetings with the School Learning and Teaching Committee are planned.

Response: Director of the Learning and Teaching Centre

Professor Bob Hill (School of Chemistry) and Dr Mary McCulloch (had an initial discussion and have arranged to meet again to have a more detailed dialogue on strategies for student progression.

Recommendation 5:

The Review Panel **recommends** that the Dean and Head of Department should take time to explain to staff how Departmental innovation can be incentivised through investment and if necessary take up the issue with the Vice Principal (Strategy & Resources) [*paragraph 4.8.15*].

For the attention of: **Head of Department
Vice Principal (Strategy & Resources)**

Response: Head of Department

The Head of School will liaise with the Head of College and VP Strategy & resources to discuss funding of future initiatives in teaching.

Response: Vice Principal (Strategy and Resources)

My role in recommendation 5 is to be reactive. I have not been approached by the Department (School)

Recommendation 6:

The Panel **recommends** that the Department continues to liaise with Audio Visual and IT Services and Estates and Building to repair the faulty AV equipment and to improve visibility in the Main Lecture Theatre and to repair the AV equipment and the blackboard in the Physical Lecture Theatre, as appropriate [*paragraph 4.8.12*].

For the attention of: **Head of Department**
Director of Estates & Buildings
Director of Audio Visual and IT Services

Response: Head of Department

Faulty AV equipment in the Main Lecture Theatre has been replaced. It is not possible to improve the visibility in the Main Lecture Theatre without extensive redesign of the seating arrangements in the back 4 rows. The AV equipment and board have been replaced in the Physical Lecture Theatre.

Response: Director of Estates & Buildings

Estates & Buildings have completed a condition survey of all 46 Lecture Theatres and have identified an investment programme to establish all Lecture Theatre's to either A or B Condition. Improvements to visibility in Lecture Theatres have been identified in the report and will be addressed when the Lecture Theatre is programmed for refurbishment.

Response: Director of Audio Visual and IT Services

In the Main Lecture Theatre the 2 data-video projectors were replaced in the summer of 2009.

During the summer of 2010 the visualiser in the Main LT will be replaced as will the AMX (AV control system) panel.

The line-of-sight and blackboard comments relate to Estates responsibilities.

Recommendation 7:

The Review Panel **recommends** that the Department liaises with Learning & Teaching Centre and Equality & Diversity Unit, in its review of demonstrator training, which would include appropriate health and safety training and that the Department considers frontloading extra demonstrators to cope with the extra student demand at start of session [*Paragraph 4.8.8*].

For the attention of: **Head of Department**
Director of the Learning & Teaching Centre

Response: Head of Department

All postgraduate demonstrators are required to attend a health and safety training course and pass a written examination before commencing demonstrating duties. This training includes fire safety training. Postgraduate students are required to do in-house training by performing the experiments to a satisfactory standard prior to starting demonstrating. Dr Mary McCulloch (Academic Development Unit, Learning and Teaching Centre) will be meeting with Dr Beth Paschke to arrange further in-house demonstrator training.

Frontloading of the demonstrators at the start of each laboratory session is now in place.

Response: Director of the Learning & Teaching Centre

Professor Bob Hill informed Dr Mary McCulloch that the School of Chemistry has implemented in-house training for all demonstrators to perform the experiments before they conduct the laboratory class. Currently all demonstrators have to attend a health and safety training class and pass a written examination on this, before they are allowed to teach.

Dr Mary McCulloch is arranging a meeting with Dr Beth Paschke (Senior University Teacher) regarding further in-house training for Graduate Teaching Assistants (GTAs).

Recommendation 8:

The Review Panel **recommends** that the Department develops a plan to deliver learning opportunities for students to work on experiments individually as well as in pairs/groups [paragraph 4.7.1].

For the attention of: **Head of Department**

Response:

The School agrees and has developed a plan to increase the availability of equipment available in the Teaching Laboratories. A substantial investment in new equipment was made in July 2010 and further investments are planned as funding becomes available.

Recommendation 9:

The Review Panel **recommends** that the Department continue its plan to review assessment feedback processes and to improve the timescales for and quality of the feedback provided to students. The Department should seek the support and guidance of the Learning & Teaching Centre at an early stage of its review [paragraph 4.3.2].

For the attention of: **Head of Department**
Director of the Learning & Teaching Centre

Response: Head of Department

The School has adopted the University Assessment Policy for the timely return of assessment feedback to students. A meeting has been held with Dr Mary McCulloch (Academic Development Unit, Learning and Teaching Centre) to discuss the specific problem of return of feedback for student projects and plans have been drawn up to communicate with students according to the guidelines of the University Assessment Policy.

Response: Director of the Learning & Teaching Centre

Dr Mary McCulloch met with Professor Bob Hill to discuss the School of Chemistry's Policy on the return of assessment feedback to students. The School intends to adopt the University's recently approved Assessment Policy. They talked about the specific case of the

return of feedback on student projects, which will require some liaison between students and supervisors to enable feedback to be returned within the three week deadline specified in the new University policy. They also discussed the need for supervisors to notify students should problems arise in meeting deadlines. It was noted that the approach described above is encapsulated within the University's new Assessment Policy. Timescales for return of project work is something that will be discussed further in the School's Learning & Teaching Committee, and a rubric will be devised.

Recommendation 10:

The Review Panel **recommends** that the Department liaises with the Learning & Teaching Centre to identify good practice from other Departments to improve the preparation it gives students for non-traditional assignments [*paragraph 4.4.3*].

For the attention of: **Head of Department
Director of the Learning & Teaching Centre**

Response: Head of Department

The School has in place compulsory training for students for non-traditional assignments such as essay writing and presentations. Discussions with staff of the Learning & Teaching Centre have given useful guidance on good practice from other Schools which will be adopted in session 2010/11.

Response: Director of the Learning & Teaching Centre

Professor Bob Hill and Dr Mary McCulloch discussed the compulsory training that the School of Chemistry provides for students for non-traditional assignments such as essays and presentations. The School is looking forward to hearing more about the University's Assessment Policy in this regard, and to seeing the case studies which are being developed by Dr McCulloch to support its implementation.

The Director of the Learning & Teaching Centre contacted Professor Hill to suggest that he might find the good practice example detailed on the link below from Economic History's DPTLA helpful, as it describes the former department's approach to using assessed coursework such as essays and seminar papers.

<http://www.gla.ac.uk/services/senateoffice/gae/psr/goodpractice/dptlareviews2007-08/info4/>

Recommendation 11:

It was noted that the Head of Teaching's relatively heavy workload might undermine his ability to plan and manage staff succession and the Panel **recommends** that the Department clarifies the role of the Head of Teaching to ensure an appropriate remit [*paragraph 4.8.3*].

For the attention of: **Head of Department**

Response:

The School recognises that the Head of Teaching has a relatively heavy workload. Responsibilities for planning of teaching are now devolved to the Teaching Committee. Dr Louis Farrugia has been assigned as Deputy Head of Teaching.

Recommendation 12:

The Review Panel **recommends** that the Department review its support of probationary members of staff to ensure that they are allocated appropriate workloads, which take cognisance of the demands of the NLTP. The Department should also ensure that the mentoring arrangement is in place and effective over the entire probationary period and that clearly articulated guidelines for probationary staff are developed, which would usefully include key contacts [*paragraph 4.8.9*].

For the attention of: **Head of Department**

Response:

Effective mentoring is now in place for all probationary staff. The School has adopted a workload model to take into account the demands of the NLTP for probationary staff. Guidelines for probationary staff are being prepared.

Recommendation 13:

The Panel **recommends** that the Department consult with the Academic Development Unit of the Learning % Teaching Centre and with Human Resources to determine the appropriate course of action to address any issue of poor teaching [*paragraph 4.8.4*].

For the attention of: **Head of Department**
Head of the Academic Development Unit
Human Resources Manager for Physical Sciences

Response: Head of Department

The issue has been identified and discussed at length with appropriate staff including the member of staff concerned and the Human Resources Manager for Physical Sciences. The issue related to a specific case of the level and style of delivery of a block of lectures rather than poor teaching. A bridging course was delivered to the students so that they would not be disadvantaged. Appropriate steps to refine the delivery of this material have been incorporated into completely revised Physical Chemistry Teaching across all levels.

Response: Head of Academic Development Unit

Structures are now in place to ensure that an individual who is consistently noted as problematic in their teaching does not just carry on without intervention.

Response: Human Resources Manager for Physical Science

The Department reached the following conclusion:

- The issue of poor teaching identified by the Panel was isolated to a specific individual and was not a wider staffing matter; and
- The cause lay partly in the material delivered and its fit to the curriculum and partly with the delivery technique and style.

The Department implemented the following actions for dealing with this problem:

- In consultation with the staff member affected it was agreed to rebalance their activities between teaching delivery and administration to reduce the former;
- The fit and linkage of that staff member's final year course with the curriculum was carefully reviewed, having recognised that the nature of the material was potentially introducing issues. Consequently a replacement Level 4 course was

developed. The Head of Department worked with the staff member concerned to help define this course and its ILOs, and a bridging course was introduced to enable the material to be delivered in a more complete context. Further, we have now used the refined final year course to help define lower year material;

- In addition, some of this staff member's key teaching (new maths for chemists content) will be delivered in a workshop environment where their carefully prepared material forms the basis of a team-based delivery, to the benefit of the students. Moreover, the rigorous supporting material prepared by this staff member is also a vital part of this delivery.

Recommendation 14:

The Review Panel considered that the programme aims could benefit from further clarification, and **recommends** that the Department revise the programme aims to further differentiate between the MSci and BSc, by means of a clearer mapping of course workload to SCQF credits and levels [*paragraph 4.1.1*].

For the attention of: **Head of Department**

Response:

The programme aims have been clarified to differentiate between MSci and BSc. This has been done in consultation with the Royal Society of Chemistry Accreditation Panel for their visit in December 2009. The weighting of the assessment of years 3 and 4 in the BSc Honours degree programmes and between years 3, 4 and 5 of the MSci degree programmes have been changed to comply with University and RSC guidelines.

Recommendation 15:

The Review Panel **recommends** that the Department survey the number of laboratory hours and the associated credit levels at a number of other Higher Education Institutions that offer Chemistry subjects and consider making adjustments to its provision where necessary to bring it into line with competitors [*paragraph 4.3.5*].

For the attention of: **Head of Department**

Response:

The School has reviewed laboratory teaching and associated credits and is convinced that it fits well with cognate subjects within the University. This matter was also discussed in detail with members of the Royal Society of Chemistry Accreditation Panel when they visited Glasgow and it was concluded that our laboratory courses are in line with those offered by chemistry departments/schools in other Russell Group institutions.

Recommendation 16:

The Panel **recommends** that the Department consider how it might raise awareness amongst staff, in terms of foreseeable trends in the external environment for recruitment [*paragraph 4.5.4*].

For the attention of: **Head of Department**

Response:

The School is passing on information about recruitment trends by email and at staff meetings.

Recommendation 17:

The Panel **recommends** that the Department reviews how to more effectively promote student mobility, particularly for outward single semester opportunities, and the compatibility of course structure to facilitate this [*paragraph 6.3*].

For the attention of: **Head of Department**

Response:

The School is actively promoting academic and industrial placements in Europe in response to the deteriorating economic situation which is causing companies in the UK to offer fewer work placement opportunities. The School has considered how single semester opportunities could be offered and has concluded that it may be possible in some degree programmes.

Recommendation 18:

The Panel **recommends** that the Department continues to review its AMR process, in compliance with University Quality Assurance process, and draw its attention to the Code of Practice in Annual Monitoring available at: <http://senate.gla.ac.uk/qa/acmr/amrcop0809.doc> [*paragraph 4.8.11*].

For the attention of: **Head of Department**

Response:

The School agrees with this recommendation and is actively reviewing its AMR process in compliance with the University Code of Practice.

Recommendation 19:

The Panel **recommends** that the Department update the information on Intended Learning Outcomes in the course handbooks in accordance with the Guidelines for Writing Aims and Intended Learning Outcomes at the Programme and Course Level, prepared by the Learning and Teaching Centre [*paragraph 4.2.3*].

For the attention of: **Head of Department**

Response:

The Intended Learning Outcomes for courses have been rewritten according to the University Guidelines.

Recommendation 20:

The Review Panel **recommends** that the University are cognisant of the department's ability to allow sufficient revision time before examinations, when the new academic year structure is reviewed at the end of this session [*paragraph 4.3.4*].

For the attention of: **Convener of Academic Structures Implementation Group**

Response: Head of Department

The School will continue to impress on students the need for sustained study throughout semester 1. This is assisted by regular short tests throughout levels 1 and 2 to encourage sustained learning.

Response: Convener of Academic Structures Implementation Working Group

The issue of revision time in the December examination period was clearly highlighted during ASIG's interim review of the academic year during summer 2009. ASIG will conduct a comprehensive review of the academic year during 2010-11, and will make recommendations to EdPSC and Senate on how revision time might be extended.

Recommendation 21:

The Review Panel **recommends** that the Department liaises with the Careers Service in respect of the coordination of career's advice to students and that the provision includes appropriate preparatory support for job applications [*paragraph 4.4.4*].

For the attention of: **Head of Department
Director of Careers Service**

Response: Head of Department

The School has in place effective advice and CV support at all levels. This is delivered by staff in the Careers Service and the Royal Society Chemistry and by former graduates. Several companies give presentations throughout the year to students on career prospects.

Response: Director of Careers Service

Stephen Shilton met with Bob Hill in March to address the recommendation of the panel as reported below:

1st Year

A Careers Adviser speaks at Physical Sciences Induction, covering all student services including Careers Service (Except Library). Students are particularly encouraged to use the Careers Service Web Site for career planning, application advice and resources, and vacancies for term-time and summer work, and to visit the Service in the Fraser Building for 1-1 help.

2nd Year

A Careers Adviser gives a short talk at the Dept.'s careers day on options with Chemistry and Careers Service. Again, Students are particularly encouraged to use the Careers Service Web Site for career planning, application advice and resources, and vacancies for term-time and summer work, and to visit the Service in the Fraser Building for 1-1 help.

3rd Year

Careers Adviser gives bespoke one hour session on CVs and one hour on Interview Techniques to the MSci Students, who have to apply for placements

4th Year

Careers Adviser gives one hour on options with a Chemistry degree to final year Chemistry students.

Recommendation 22:

The Review Panel **recommends** that course handbooks clearly articulate the relationship between performance and credit [*paragraph 4.8.10*].

For the attention of: **Head of Department**

Response:

The School has examined good practice in course handbooks from other subjects and the School's course handbooks have been revised to clearly articulate the relationship between performance and credit.

Focus of Progress Review of Chemistry

- Recommendation 3 - *The Review Panel recommends that the Department clarify the remit of the Teaching Committee to include: the development and implementation of a Teaching Development Strategy for the next 5 years; reviews of the curricula and sustainability of courses; progression issues; the development of PGT courses; and consideration of the effectiveness and attractiveness of the full range of programmes on offer. Any curriculum review should be conducted with reference to guidance and advice from University Services, such as the Learning and Teaching Centre and the Equality and Diversity Unit.*

Members noted that an initial meeting had taken place between Dr Mary McCulloch, Academic Development Unit, and Professor Bob Hill, Head of Teaching and that the School planned to invite Dr McCulloch to the School's Teaching Committee meetings as appropriate and for her to participate in all curriculum reviews.

It was agreed that for the purpose of the Progress Report, Chemistry should provide an update on progress in terms of details of their 5 year Teaching Development Strategy (and how this relates to Corporate Plan and liaison/communication channel with College); curriculum reviews; progression issues; development of PGT cohort; and viability and marketability of programmes on offer. There was a suggestion that the Senate Office could usefully provide an example from other areas within GU where strategic plans are being developed and a template is appended (Appendix 3). The Progress Report should also include details of membership, remit and copies of previous minutes (since last review in 2009) of the School Teaching Committee;

- Recommendation 4: *The Panel recommends the Department should continue to review its strategies for enhancing progression through the levels, to deliver streamlined courses in a coherent way, with guidance from Academic Development Unit of the Learning & Teaching Centre and cognisance of other HEI's approaches.*

Panel members received a summary from Professor Hill on student numbers for all Chemistry courses from 2003 to 2010 which had been obtained from WebSURF. Members were advised that the Senate Office would be forwarding data from the Planning Office in respect of student numbers: SSPIs and degree classification results; progression and completion data by programme; cohort analysis (to follow from Retention Officer) and quality enhancement and assurance information: NSS results plus students' open comments; and FYSLES (at College level). It was noted that there were plans for Dr McCulloch and Head of Teaching to discuss strategies for student progression and Panel members looked forward to receiving an update in the Progress Report;

- Recommendation 5: *The Review Panel recommends that the Dean and Head of Department should take time to explain to staff how Departmental innovation can be incentivised through investment and if necessary take up the issue with the Vice Principal (Strategy & Resources).*

Members noted a meeting between Head of School and Vice Principal (Strategy and Resources) was planned to discuss funding of future initiatives in teaching and were interested to receive details of progress and how developments were being communicated to staff members;

- Recommendation 9: *The Review Panel recommends that the Department continue its plan to review assessment feedback processes and to improve the timescales for and quality of the feedback provided to students. The Department should seek the support and guidance of the Learning and Teaching Centre at an early stage of its review.*

It was noted that a review of assessment feedback processes including timescales for return of work, was progressing and members were keen to receive an update in the Progress Report on how the School planned to engage with the new Assessment Policy (Note formal approval through EdPSC meeting on 13 December 2010) and in particular around recent NSS results;

- Recommendation 10: *The Review Panel recommends that the Department liaises with the Learning & Teaching Centre to identify good practice from other Departments to improve the preparation it gives students for non-traditional assignments.*

It was noted that the School was liaising with the Learning & Teaching Centre to identify good practice in relation to the preparation of students for non-traditional assignments, which would be adopted by the School for implementation in 2010-11. In particular, members were looking forward to receiving further details of good practice disseminated by Learning & Teaching Centre in relation to essay writing and presentation: how this had been implemented by the School particularly in terms of programme aims and process of curriculum review, including student feedback.

Teaching Development Strategy

What is the vision for the School's teaching provision?

- What are the School's aspirations with regard to the courses and programmes that it delivers?
- How do these aims align with the strategic goals for the College and the University?
- What measurable outcomes will chart the School's progress towards these aims?

What aspects of the School's teaching provision are distinctive?

- What aspects of the courses and programmes delivered by the School set them apart from the provision available at universities elsewhere in the UK or further afield?
- What are the competitive strengths of courses and programmes delivered by the School?
- How are these distinguishing features communicated to prospective UK / EU and international applicants?

Are there obstacles to be overcome if the School's vision is to be realised?

- Are there areas within the School's existing provision where improvement is required as a result of feedback from students, staff, external examiners, or other interested parties?
- Over what timescale can these issues be addressed in order to enhance the teaching provision?
- To what extent do constraints of staffing, resource or infrastructure impinge upon the School's aims and ambitions?
- What measures will be used to chart improvements in these areas?

Are there other areas of vulnerability in relation to the School's aims?

- Are there aspects of teaching provision that are vulnerable should key staff depart? Can teaching provision adapt in the event of staff changes? Will staff replacement be required in order to protect the teaching provision?
- Do areas of teaching provision appear to be unsustainable for other reasons (eg small class sizes, limitations of resource)?
- Would changes in course or programme structure be required to adapt to these or other circumstances? What would be the impact on areas of perceived strength in the teaching provision?

Objective assessment for progress towards the School's aims during the current planning cycle