

## University of Glasgow

## Academic Standards Committee - Friday 15 November 2013

**Periodic Subject Review: Update on Responses to Recommendations arising from the Review of School of Physics and Astronomy held on 13 and 14 February 2012**

Mrs Catherine Omand, Senate Office

***Recommendation 2***

The Panel **recommends** that Estates and Buildings address two pressing issues regarding accessibility for disabled students and staff of the School: access to the Common Room in the Kelvin Building (as recommended in the 2006 DPTLA); and access to the University Observatory. [*para 3.8.18*]

For the attention of: **Estates and Buildings**For information: **Head of School*****Response: Estates and Buildings***

University Observatory – Access improvement works to this building were completed during summer 2012, this made provision for a new ramped approach at the main entrance, automated entrance doors and provision of a new disabled toilet.

Kelvin Building – Access improvement works required to this building have been debated in the past however they would require significant changes to the building. This can be reviewed in the future.

***Response – Head of School***

As part of the first phase of the Observatory refurbishment a wheelchair ramp has been installed providing access to the building for disabled users and a new disabled toilet facility has been installed.

The passenger lift in the Kelvin Building is small and antiquated with manually operated double doors. Wheelchair users are unable to operate the lift on their own and require assistance. The floor area is insufficient for a wheelchair user to turn round and the lift does not meet modern standards for disabled access. Even so, with assistance, wheelchair users still can access the lecture theatres and teaching labs on levels 2, 3 and 4 of the Kelvin Building and the School office on level 5. However, the common room and all rooms on level 6 are completely inaccessible as these can only be reached by narrow stairs.

Several schemes have been proposed in recent years to replace the main passenger lift with one which meets modern standards for disabled access in order to provide unassisted access to the main teaching areas and for a separate and additional one-floor lift to provide direct access to the common room. However, these schemes have not proceeded due to very considerable costs involved.

The School of Physics and Astronomy strongly supports the principles of improving access to the public areas of the Kelvin Building and to the common room in particular. It strongly endorses the recommendation of the PSR panel that Estates and Buildings address this issue.

#### ***Updated response from Estates and Buildings – October 2013***

The issue of disability access to the Common Room and other rooms on level 6 is understood and in the past options of new lifts have been considered. The relocation of the common room is not an easy alternative as locations are not readily available. As part of the campus estate strategy we will be looking at key investments across the estate and from this we will develop asset plans for all major buildings. I would suggest that when we do this work we take the opportunity to comprehensively review facilities in Kelvin as part of the asset plan.

#### ***Recommendation 4***

The Panel **recommends** that the School continue to engage in dialogue with the College to consider the case for the introduction of dedicated teaching administration. [*para 3.8.5*]

For the attention of: **Head of School**

For information: **Head of College**

#### **Response:**

The School notes that it is out of step with many other Schools in the University which have a dedicated teaching administrator. There are many tasks which are currently carried out by academic staff which could be more efficiently carried out by a teaching administrator, releasing academic time for research and scholarship. These tasks include timetabling of classes, room bookings, recording and following up student absences, monitoring tier 4 student attendance and engagement, processing course assignments and results, inputting and updating course information in PIP, organising and taking the minutes of exam boards, organising and taking the minutes of Teaching Committee meetings. At present these tasks are split between many different people including Classheads, Labheads, Advisors of Studies, the School Examination Officers, the School Convenor of Learning and Teaching, University Teachers, PGR and PGT Convenors, Head of School Administration and various secretarial staff.

The School will therefore continue to engage in dialogue with the College on the issue of dedicated teaching administration, although current constraints on the College budget mean that the appointment of an additional teaching administrator for 2013-14 appears unlikely. Consequently the School will continue to explore ways of improving its provision of teaching support with its existing complement of administrative staff, while seeking to maintain our Research Group structure and the highly effective and efficient secretarial support that underpins it.

#### ***Updated Response from Head of College – October 2013***

Like the School, the College does not wish academic staff to spend their time carrying out tasks that can be done more efficiently by a teaching administrator. Led by the College Secretary, it is seeking a College wide solution to making the most efficient use of support staff. Progress is slow but forward. It is anticipated that Physics & Astronomy will benefit along with other Schools in the College. It is hoped that the new system will be in place before the start of the 2014-15 session.

### **Recommendation 5**

The Panel **recommends** that the School implement a transparent scheme for the allocation of Demonstrators' duties, and a system of providing formal feedback on their performance, the latter as previously recommended in the 2006 DPTLA review. [*para 3.8.12*]

For the attention of: **Head of School**

#### **Response:**

There are a number of reasons why the current system of GTA demonstrator allocation is not fully transparent. Firstly lab demonstrating is not an isolated activity; it is a small part of the full range of teaching carried out by GTAs which generally will also include lectures, project work, tutorials, workshops and small group supervisions. Some of these activities are best carried out by more experienced GTAs. Some activities have specific subject skills which need to be matched. Other activities are open to all GTAs. The teaching load of GTAs is often restricted by staff availability as many carry out research abroad. The teaching duties of GTAs need to be limited so as not to adversely impact on their research work. As a policy we do not require Ph.D. students to demonstrate in the first semester of their 1<sup>st</sup> year or in their 4<sup>th</sup> year when they are heavily involved in training courses or in writing up their Ph.D. project respectively. However, we do use volunteers from these cohorts. In the past teaching duties have been allocated at various times throughout the year, and the nature of the discipline means there are a lot of last minute changes required to cope with research commitments and other work which arises at short notice.

To improve matters the Convenor of Learning and Teaching will revise the teaching allocation process. He will survey all teaching staff, including GTAs on their availability and preferences in May each year. He will explain the boundary conditions and priorities clearly to staff. He will then make the initial allocation of all the teaching duties for the following session at the same time and much earlier than in previous years. Clearly adjustments will still have to be made later on to cope with changes in the expected numbers of students in each class and to allocate duties to new staff. However, these changes should provide more clarity and transparency and give all staff greater notice of what is expected of them.

The nature of demonstrating duties varies markedly across our different classes, as does the organisation of the specific laboratories. The School feels it would be overly rigid and cumbersome to introduce a formal demonstrator evaluation system. Instead labheads have been asked to ensure that all demonstrators receive formative oral feedback on their work from the labhead, deputy or a delegated member of academic staff with whom they are working.

In addition the School has put in place a forum for GTAs to discuss issues of concern with academic staff and will invite a GTA representative to attend Academic Staff Meetings and Teaching Committee Meetings where they can raise relevant issues.

#### **Updated response – October 2013**

The School of Physics and Astronomy employs GTAs to assist academic staff with the teaching and running of classes. This provides GTAs with opportunities to develop teaching skills and prepare them to apply for academic positions. Both PGR students and post-doctoral researchers are employed as demonstrators in practical laboratories. In addition some of the more experienced post-doctoral researchers hold weekly small group UG student supervision sessions or assist with the supervision of project work, or may deliver a short lecture course.

Prior to the Periodic Subject Review feedback to GTA demonstrators was provided on an ad hoc basis through contact with the academic staff they work with. Following the review, each labhead has been formally charged with providing feedback to the demonstrators in their lab on their performance. In addition the school has asked Dr Eric Yao, a University Teacher employed in the School, to organise a support forum for GTAs in order to develop and enhance their teaching skills. Dr Yao is ideally suited to lead this work as he is involved in an ongoing research project to provide support to GTAs across all sciences at the University of Glasgow. He is part of a team researching staff perceptions of GTAs in STEM areas and has presented this work at international conferences. He is also involved in training GTA tutors for Science Employability courses.

In 2012/13 Dr Yao introduced a teaching support discussion forum for post-doctoral research staff within the school. This forum has proved to be very beneficial in sharing experience and ideas and answering questions. Dr Yao regularly feeds back ideas from his cross-College work into the Physics and Astronomy GTA discussion meetings and so he is able to provide a very wide range of feedback. These meetings will be continued regularly from now on to provide formal support to GTAs and help them enhance their teaching skills.

### ***Recommendation 8***

The Panel **recommends** that the School produces, and publicises to its staff, an overview of the various funds available to support the enhancement of teaching, covering School, College, University and external sources. *[para 5.6]*

For the attention of: **Head of School**

### **Response:**

The Convenor of Learning and Teaching regularly passes on opportunities and calls for proposals to enhance learning and teaching to staff. In addition the School SMT is always willing to receive and consider specific requests for additional funding for worthwhile projects. To assist this process a list of sources of funding for teaching initiatives will be drawn up shortly and distributed to staff.

### ***Updated response – October 2013***

The School of Physics and Astronomy has identified the following sources of funding to support the enhancement of teaching, from School, College, University and external sources.

The Higher Education Academy provides a range of individual, departmental or collaborative teaching development grants.

The University's Chancellor's Fund and Learning & Teaching Development Fund are sources which are useful to develop teaching projects.

The School of Physics and Astronomy provides funding each year for summer studentships. The students generally work on a range of 6-week projects covering both Teaching and research topics.

This information will shortly be distributed to all teaching staff in the School.

### **Recommendation 9**

The Review Panel **recommends** that the School investigate the feasibility of incorporating some additional basic programming into the undergraduate curriculum, in order to prepare students better with computing skills required throughout their programmes of study. [para 3.4.10]

For the attention of: **Head of School**

### **Response:**

This issue was considered by the School Teaching Committee at its first meeting in session 2012/13. The Teaching Committee set up a Working Group in November 2012 to investigate this issue in detail and make recommendations for the development of student programming skills. This Working Group has not yet reported.

### **Updated response – October 2013**

The Physics and Astronomy Teaching Committee set up a Working Group to investigate the feasibility of incorporating some additional basic programming into the undergraduate curriculum, in order to prepare students better with computing skills required throughout their programmes of study.

The Working Group's main recommendation was to make better use of our current 2<sup>nd</sup> year "Physics 2T: Programming under Linux" c-programming course, which was previously optional. This course gives students experience of using the linux operating system, which is widely used in computational physics, and it also gives them experience in the c-programming language which is widely used in scientific work.

The Working Group recommended that this course should be made compulsory for students on Theoretical Physics honours degree programmes, which have a clear requirement for advanced programming skills. However, after due consideration, the Working Group concluded it was not possible to make this course compulsory for students on other Physics honours degree programmes. Instead, they recommended that "Physics 2T: Programming under Linux" should become a "recommended course" for these students.

This proposal was endorsed by the Physics and Astronomy Staff-Student Liaison Committee, the Physics and Astronomy Teaching Committee, the Physics and Astronomy Academic Staff Committee and was presented to the January Science and Engineering Board of Studies who also gave it their approval. The changes were introduced for students in summer 2013. As a consequence all 2<sup>nd</sup> year students on Theoretical Physics degree programmes are now taking this programming course and the uptake from students on other degree programmes has also increased significantly.

As a consequence of this change all students entering 3<sup>rd</sup> year on a Theoretical Physics degree programme will have an advanced knowledge of programming skills and the third year computational lab will be able to cover more advanced programming material. The content of this course will be altered for 2014/15. Theoretical Physics students will then be much better prepared for advanced project work in their 4<sup>th</sup> and 5<sup>th</sup> years.

Those students on other Physics degree programmes who take Physics 2T as a recommended option, will also have a greater knowledge of programming which will stand them in good stead in their project work. However, students who do not take this course will not be disadvantaged as they will be able to choose projects which are more experimental in character.

The Working Group also reported to the Teaching Committee that students are now much more familiar with standard computer software such as Excel and so more time could be made available in the standard 2<sup>nd</sup> and 3<sup>rd</sup> year laboratories to develop further some of our current “Matlab” programming teaching. This will be of benefit to all Physics students. However, as the main focus has been on changes to the status of the Physics 2T course, the details of these smaller changes to the Physics 2 and Physics 3 laboratories have still to be finalised but these changes will be implemented for the start of Session 2014-15.

One other optional course which relies heavily on computational skills is our Numerical Methods honours Physics course. This consists of 14 lectures and 5 practical sessions. A new lecturer has been appointed to this course with the remit of introducing more programming into the practical sessions. This will happen in Session 2013-14.

### **Recommendation 10**

The Panel **recommends** that the School consider how best University Teachers can be supported in their career development and given time and opportunity to develop the scholarship that is a requirement for promotion. [*para 3.8.7*]

For the attention of: **Head of School**

### **Response:**

This issue has already been touched upon in our comment on Physics Education and Communication in Schools, where we stated that the School will generally support all reasonable initiatives by University Teachers to innovate teaching methods and explore new techniques which can provide the scholarship necessary for publication. The School also provides encouragement for University Teachers to engage with the wider scientific community and to raise their profile through work with colleagues in other Schools, Colleges and Universities, learned societies, the Higher Education Authority, SQA and other similar bodies.

However, there remain a number of very strong structural impediments to career progression for University Teachers. By their job description they are expected to undertake a much larger quantity of teaching and administration than other academic staff. This leaves them with very little time for research or scholarship. The resources available for research and scholarship, particularly in Physics Education, are extremely limited. The University Learning and Teaching Development Fund is contracting and its focus is shifting away from innovation to sustainable implementation, which offers less opportunity for scholarship. The number of publications which an excellent University teacher is able to produce is very low in comparison to what can be achieved in more traditional physics research areas. There is no obvious source of funds to support PhD students in Physics Education.

The requirements for advancement, particularly to Grade 9, require the achievement of notable esteem, a substantial publication record, the generation of substantial external grant income and the successful supervision of PGR students. While such requirements are roughly comparable with the requirements for advancement of staff on a Research and Teaching path, they are much harder for a University Teacher to achieve, given the factors listed above.

The School feels that this is not an issue it can address on its own and asks the University to monitor and review the promotion rates of University Teachers across the whole University to check whether the advancement criteria are set at a level which is achievable and are appropriate for this class of staff.

***Updated response from Vice Principal (Learning and Teaching) – October 2013***

I note that the School has raised concerns in relation to career development and promotion of University Teachers. The University is currently participating in a Higher Education Strategic Change project looking at recognition systems for Learning and Teaching. The project is being led by the Director of the Learning and teaching Centre who is leading a team of academics from across the University including University Teachers. The project is looking at best practice across the sector and will help shape our future promotions criteria for University Lecturers and University Teachers. The impact of this project on the career progression mechanisms for the latter group is likely to be the most significant. I expect the work of the group to start influencing practice here during the next two years.