

School Annual Quality Report

School of INFORMATICS (Taught report)

Academic Year: 2016-17

**1. Progress with recommendations from Senate Quality Assurance Committee in the past year.**

**1.1. Please provide an update on space issues within your School.**

We have struggled to find sufficient space during the Appleton Tower refurbishment (e.g. tutorial rooms, machine halls), but we will be back in AT for the start of 2017-18. This will greatly improve the situation, as we will now occupy two more floors in AT than we did before the decant. In particular:

- Level 9 will be made available to final-year students during Semesters 1 and 2 (and we are hopeful that this improved facility with its superb views of the city may positively affect our student satisfaction scores). Thereafter, it will be available to MSc students working on their projects over the summer.
- We will have two sizeable machine halls in AT. This means that if one is out of use for the purpose of a programming exam, students will still have access to the other (the disruption in availability has sometimes been in a problem in the past).

However, in view of the rising numbers of MSc students, we still expect that good economical management of the space available to us will be necessary.

**1.2. Please comment on any Timetabling issues experienced within the 16/17 session.**

We find timetabling generally easier for lectures than for tutorials and labs, which have to fit in around the lecture schedule once this is in place. As regards lectures, there were a few unfortunate clashes in 2016-17 but we have now managed to resolve virtually all potential conflicts for 2017-18, thanks to some extensive jigsaw puzzling and ad hoc email communication between Schools. We have also managed to reduce the use of lunchtime and 5-6pm slots, to which we were forced to resort in 16-17 and which were unpopular with students.

As regards tutorials and labs, timetabling was particularly difficult in 2016-17 owing to the shortage of suitable spaces in Forrest Hill (along with the large number of MSc students); with the return to Appleton Tower it should become easier, although there is still a constraint that many tutorial rooms there can accommodate at most 12 students. This limit on group size may be a positive from the students' point of view, though it also puts pressure on tutor provision.

One systematic problem is that we typically have very little idea of the numbers of students taking courses until Week 0 of Semester 1, long after rooms have been allocated. (Even after that, numbers often fluctuate until course choices have settled down by the end of Week 3.) We are currently discussing the possibility of asking our own returning students and incoming MSc students to make provisional (non-binding) choices at an earlier stage in order to facilitate room allocation, as is already done by some other Schools; however, this would mean committing ourselves earlier to the selection of courses we are able to offer in a given year, which may present its own challenges.

**1.3. Please comment on any improvements within Learn and its functionality (if this was an issue within the 15/16 session.)**

Learn is used only by about 10 teaching staff within Informatics. These staff seem happy with it; in particular the ability to make most Learn content publicly available is appreciated by some lecturers. However, most academic staff currently see little incentive to use Learn, and there is not much push from students to do so, as most of the typical Learn functionality (lecture videos, discussion forums, coursework

submission mechanisms) is already being offered by other means. There is also a perception that Learn is not very well adapted to the needs of our discipline (e.g. submission of source code, plagiarism checks, support for mathematical notation). We do, however, recognize that it may offer advantages from the administrators' point of view (e.g. easier enrolment for tutorials).

## 2. What has worked well throughout the year?

- We reported last year on a major **restructuring of our Year 3 programme** in response to consistent student feedback regarding the high workload: this included the replacement of several 10-point courses by 20-point ones, and the moving of some of the exams for Semester 1 courses to December. These changes were rolled out in 2016-17; they have been positively welcomed by students and have been deemed a success overall. Similar principles are now being gradually rolled out to other years, with the introduction of more 20-point courses at UG4 and MSc level. (There is also an incentive for staff to propose and teach 20-point courses in that 20 points is now standard teaching load.) The selective move of Semester 1 exams to December is also ongoing; we are reluctant to hold all of them in December as the revision period is limited.
- We have appointed three **University Teaching Staff** (1 full-time; 2 part-time but full-time during termtime) dedicated purely to teaching duties (largely teaching support). These positions have been introduced as an economically sustainable alternative to relying on employing tutors etc. from outside Informatics in order to fill all our teaching support roles, as in some previous years. They are also a small step towards implementing a suggestion from our 2015 TPR reviewers who felt that our academic staff were overstretched. These staff should help us to ensure consistency of teaching support from year to year as their roles settle.
- A new online **Degree Project Management Tool** has been introduced to facilitate the allocation and management of individual projects for UG4 and MSc students. This allows students to register interest in projects, and for staff to record their suitability or otherwise for the project once they have interviewed the student, and then for students to submit their final ranked preferences. This has been well-received by both staff and students, and this year 90% of students were allocated a project from among their top three choices. (In 2015-16, by contrast, 25% of MSc students were not allocated any project at all by the end of the main allocation process.) The tool has also proved an indispensable aid this year in view of the size of the MSc cohort and the unprecedented numbers of interested students whom some staff have had to interview.
- Our **admission process for MSc students** has changed: students beginning in September 2017 have, for the first time, been required to pay a fee deposit before arrival. We believe this will allow for much better prediction of the size of the MSc cohort before the start of the year; our current estimate for the 2017 intake is 300-320 students.
- Our Director of Teaching's habit of running **weekly Student-Staff Liaison Meetings**, and running a blog for discussion of issues that arise there, continues to be praised as an effective channel for open and honest communication in both directions, and for addressing problems promptly when they arise. Students appreciate being able to see from the blog that their concerns have been heard, and many other students besides the reps engage in the blog discussions.
- We have also held '**Meet the Director of Teaching**' events (a.k.a. 'Town Hall sessions') for the wider student body. The one held in Semester 1 Week 0 was very successful, and gave the opportunity for the DoT to explain the rationale for the changes introduced this year and how they were driven by feedback from last year's students. This helped students to see that their own feedback on this year's programme would in turn be listened to and valued. Later in the year, however, there was much less interest from students in attending such events.
- **External Examiner feedback.** The EE comments received to date for 2016-17 have been very positive, including commendations on areas that have been problematic in the past (project moderation, detailed feedback to students on their coursework). The problems noted mostly concerned matters of administrative detail - these were attributable to admin staff discontinuities last autumn and are unlikely to recur, although the ITO have taken note of them.

### 3. Any new/innovative developments throughout the year worth sharing more widely?

#### **MSc peer learning groups.**

Recognizing the very wide ability spectrum among our MSc students, this year we supported the formation of peer learning groups by paying stronger students to coordinate and lead such groups. Although this was introduced as a patch measure to address the crisis in tutor provision for MSc's (see Section 4 below), it proved to be quite effective in some ways, and we are now considering embedding this as a permanent aspect of the programme. The opportunity to lead groups was particularly appreciated by students considering an academic career.

On the other hand, we are wary of using this measure simply as a mask for our own deficiencies – students are sensitive to this and, if they themselves are expected to take too much of a lead in their own teaching, start to wonder what they are paying for. So despite its positive aspects, we do not think it offers a healthy *solution* to the tutor provision problem in the long term.

Introduction of **University Teaching Staff**, as described in Section 2.

Our **Degree Project Management Tool** described in Section 2 may also be of interest:

<https://dpmt.inf.ed.ac.uk/>

### 4. Any areas identified requiring attention/further development?

#### **Number of MSc students.**

The size of our MSc cohort has been escalating dramatically in recent years. The leap from 154 students in 2014-15 to 256 in 2015-16 was already unprecedented, and the further increase to 338 in 2016-17 strained our capacity to crisis point. (As mentioned earlier, we are expecting around 300–320 students in 2017-18.) From the School's perspective, the main challenges were the following:

- Finding sufficient tutors for MSc courses, most notably the Informatics Research Report module which is compulsory for most MSc programmes. Tutorials for this were a few weeks late in starting on account of this. This drove us to introduce the MSc peer learning groups (see Section 3) as a stopgap.
- Finding enough supervisors for projects. This was not simply a matter of an increased average project supervision load for academic staff, as the interests of students are not spread uniformly across Informatics but cluster heavily around Machine Learning and Natural Language Processing in particular. Staff in these areas were extremely stretched in both the student selection and supervision phases, and we consider this situation to be unsustainable.
- The spectrum of ability among our MSc students is enormous. Whilst we have many outstanding students, we consistently find that there is a very long tail of weak students who drain large amounts of time and energy in teaching and supervision. In response to this, we are tuning our admission procedures in an effort to ensure that we select the best students possible. Whilst the official admission criteria remain the same, we are now collaborating more closely with the Admissions Office than before, and providing more input from our side on particular admission cases.
- Many students come with a low-level of English language ability, and this again makes teaching and supervision more onerous. We have rather lost confidence in the IELTS scores standardly used at point of admission, as we have found that these have no correlation with eventual academic achievement. By contrast, our on-site TEAM tests have been found to be a good predictor of performance, but students only take these after they have arrived. We are thus unsure how best we might raise the bar as regards English language ability, much as we would like to do this.

From the student perspective, the situation is well captured by the results of an internal survey we conducted in May 2017, to which 39% of our MSc students responded. Many respondents explicitly said that there are too many students, and too little support for them. We therefore need to reduce student numbers, or increase support for them, or both.

### **Response to NSS results.**

There has once again been a disappointing drop in our NSS scores: 73% in 2017, as against 77% in 2016 and 88% in 2015. Whilst it is pleasing to see a 9% increase for 'Assessment and Feedback' (a longstanding problem area), and a 5% increase for 'Teaching on my Course', there has been an 8% drop for 'Organization and Management', and a 4% drop for 'Learning Resources'.

To a large extent, we remain puzzled by the mismatch between reported satisfaction levels from our on-course and finishing students and the scores they give in the NSS. We believe that the following factors may be at work:

- Students appear to have a long memory for isolated disasters: e.g. we believe that the cancellation of the third-year Software Engineering Large Practical in 2015 is still affecting our scores. This suggests that students are tending to rate us according to the lowest point of their experience rather than its average level.
- As discussed in last year's QA report, we suspect that the massive increase in MSc student numbers has led to a dilution of the level of attention given to our UG students, and to a loss of the group cohesion to which they have become accustomed in Years 1 and 2. As mentioned in Section 1.1 above, the dedication of AT Level 9 to our final-year UG students during teaching terms is an attempt to mitigate this.
- We suspect that the significant improvements to Year 3 (see Section 2) may perversely have had a flip effect of increasing *dissatisfaction* among Year 4 students who missed out on this.
- As our courses are not based at KB, our students tend to rub shoulders with their peers in Schools very different in their culture from ours, who are perhaps able to offer more individual attention to students.
- In the NSS, students are rating their experience of the University as a whole, and it is hard to be sure how much dissatisfaction is directed to the School in particular. Certainly, many students are well aware of the University-wide pressures that Schools are under.

At the same time, we acknowledge that the last two years have been difficult ones with pressure on space and other facilities, and are hopeful that the return to Appleton Tower will herald an era of greatly improved student morale.

### **Variability in teaching quality.**

A persistent complaint from students concerns the very wide variation amongst their lecturers in terms of quality and commitment to teaching (and the same names are mentioned each year). To mitigate this, we are considering making greater use of 'team teaching', whereby two academic staff would collaborate on the delivery of a course – staff recognized as poor communicators could then be assigned more of the 'backroom' tasks (preparing coursework and tutorial materials, setting exams etc.).

### **Curriculum review.**

We currently offer to Taught students a choice of courses unmatched in number and breadth by any other Informatics department in the UK. This broad course portfolio is regularly praised by external reviewers as one of our main strengths, but there is a wide feeling within the School that it is unsustainable in terms of the workload on academic and other staff, and that the number of courses we offer should be reduced. On the other hand, suggestions for the removal of any specific course invariably meet with resistance.

To address this dilemma along with other general questions about our degree programme structure and student numbers, an internal Curriculum Review group has recently been convened and has held its first two meetings. We will report on the outcomes of this process in next year's QA report.

## 5. Actions planned and requested

### Section A

#### **Actions planned by the school based on the analysis in sections 1-4.**

- The return to Appleton Tower has commenced and this will occupy us for the next few weeks.
- Continuing roll-out of UG3 reforms to UG4 and MSc programmes (especially the introduction of more 20-point courses).
- Our internal curriculum review will continue to explore the question of our course portfolio and the structure of our degrees at the programme level. This is likely to lead to some structural reforms which will be carried forward by our new Director of Teaching.

### Section B

#### **Actions requested of the College based on the analysis in sections 1-4.**

Nothing specific.

#### **Actions requested of the University based on the analysis in sections 1-4.**

- We would reiterate here our main message from last year's report, namely that it appears to us the University is pursuing an uncontrolled growth strategy which is harming us overall on many levels. Most specifically, the current numbers of MSc students appear to us unsustainable: this year it led to a crisis in tutor provision, and unrealistic project supervision load for many staff, and a noticeable effect on student satisfaction levels among both our UG4 students and the MSc's themselves.
- Better central support for timetabling would be welcomed. The team are extremely helpful and responsive, but the system itself seems clunky and limited and suffers from many quirks.