



1. DEPARTMENTAL STRATEGIC VISION

Mission

The Department's research and teaching are shaped to a large extent by its location within LSE. This presents opportunities to carve out a particular niche and to capitalise on strengths not to be found to such extent in other universities. We embrace the School's ethos of research-led teaching, and view research and teaching as complementary activities, each enhancing the other. Our aim is to be excellent both in teaching and research, in a way that reflects our location within a social sciences institution, working effectively with other parts of LSE.

The overall learning and teaching mission of the Department in this context is to provide excellent learning opportunities to all its students: those on its own programmes, those from other Departments, and those studying on the University of London International Programme.

Learning and Teaching Strategy

The Department's strategy in relation to learning and teaching is to improve students' learning and personal and professional development by:

- Developing and innovating in assessment, feedback and the curriculum (recognising, while staying true to understood and respected disciplinary norms, that there are many aspects of student ability that should be assessed).
- Making effective and appropriate changes to the management and organisation of teaching (in order to make best use of our abilities and facilities to help students learn).
- Building a supportive learning community (engendering a sense of cohesion, belonging and cohort identity in students on our degree programmes and a supportive learning environment for all students we teach).

An Action Plan to achieve our strategy is provided below. The Action Plan is a living document, which will evolve appropriately, and will be subject to regular review by the Department. The following indicators will measure progress:

- student satisfaction in our courses (as measured by elements of the TQARO surveys)
- programme-level evaluations (as measured by NSS, NSS-style evaluations for year 1 and 2, and NSS-style PGT evaluations)
- student completion and progression on our programmes.

The Action Plan concentrates on teaching at BSc and MSc level. The main reason is that PhD training in Mathematics is very different from in other types of teaching, involving regular and intensive contacts between PhD students and their supervisor(s) and very little formal group based teaching.

Context

The Department runs two degree programmes at undergraduate level and two at taught Masters level. These programmes are very successful and they are in much demand from a body of highly-qualified applicants, the demographics of which are consistent with LSE's strategic objectives in relation to widening participation. The Department also has a PhD programme. Formal group-based training for our PhD student is provided by LTCC (the London Taught Courses Centre for PhD Students in the Mathematical Sciences) and the LGSMF (London Graduate School in Mathematical Finance). Both are consortia of mostly London-based institutions that provide advanced courses for PhD students at several stages of their study. Staff in the Department also teach courses in those centres. The Department also makes a major contribution to teaching students from other departments of the School (teaching, for example, around three-quarters of all first year undergraduates). The Department has extensive participation in the University of London International Programmes and a growing level of participation in Summer Schools. From 2017, the Department will, with the Department of Statistics, be running a new BSc in Financial Mathematics and Statistics. Additionally, the Department will, from 2017, be responsible for all teaching in Operations Research at LSE. As a consequence of that, it has substantially redeveloped teaching in this area and will launch a new MSc in Operations Research & Analytics in 2017.

Some aspects of our teaching are distinctive in the LSE context. For certain key courses, such as those 'methods' course at the interface between school and university, we have pioneered the use of specialist education-focused staff with particular pedagogical expertise. Furthermore, formative assessment and feedback on our courses is more regular than the LSE norm, typically weekly.

The year 2015/16 and the next several years constitute a period of considerable activity and further development for the Department on matters related to learning and teaching, not only in relation to the design and introduction of the two new degree programmes. Following ASC and APRC reviews in 2015/16, the Department has embarked on a number of strategic actions related to improving and extending the range of its teaching (some of which were underway independently of the reviews).

2. STRATEGIC ACTION PLAN: OVERVIEW

The Department's strategic actions are as follows. Fuller details are given below. These actions have been grouped in line with the Department's Learning and Teaching Strategy.

Developing and innovating in assessment, feedback and the curriculum

- Enhance formative feedback to students
- Enhance programming training for students
- Diversify methods of summative assessment
- Extend the use of e-assessment
- Better align University of London International Programmes provision with LSE provision

Making effective and appropriate changes to the management and organisation of teaching

- Make classes more interactive and pedagogically effective
- Increase consistency in class teaching within courses
- Extend the provision of the Maths & Stats Support Centre
- Solicit more extensive student feedback and explain consequent actions
- Provide enhanced information on courses for students
- Establish a Director of Studies for First-Year Students
- Extend the scope of Departmental course and programme reviews

Building a supportive learning community

- Provide study/social space for undergraduates

- Run disciplinary learning and teaching workshops to support quantitative teaching at LSE
- Establish an LSE Women in Mathematics Network and Workshop Series aimed at students at all levels and staff
- Establish professional and personal development seminar series for first and second-year undergraduates
- Provide tailored support and a personal development seminar for PhD students
- Establish an Outreach, Recruitment and Admissions Coordinator
- Expand activities involving alumni and external speakers

3. STRATEGIC ACTION PLAN

Listed below are specific strategic objectives and related actions.

Performance Indicators are included, and these will be used as a means to measure effectiveness of the actions. We do not specify targets for these indicators: they are to be used only to measure progress. We also indicate, where appropriate, the time-frames of the actions, those ultimately responsible, the resources required to implement them, those with whom we would collaborate on implementation, and the linkages with three primary strategic objectives of LSE's overall Education Strategy, which are as follows:

- **SO1:** LSE departments lead in the provision of excellent disciplinary and interdisciplinary education.
- **SO2:** LSE graduates are well informed, critical, analytically sophisticated and globally employable.
- **SO3:** Students and staff interact to build a dynamic learning community that reflects the School's distinctive identity.

One performance indicator mentioned throughout is TQARO scores. To be precise, we will use the following indicator, arising from the full set of TQARO data: the mean value of the following questions: question 1.11 from the lecture survey (which is about the overall performance of the lecturer) and questions 2.4-2.7 on the class/seminar survey (which are the key and most relevant questions from the Course Evaluation section¹).

¹ We consider question 2.8 "How satisfied are you that the feedback received on this course will be helpful in preparing you for the final course assessment?" as not useful, as it cannot be answered by the student in an evidence-based way until he or she has actually taken the final course assessment.