

College of Science and Engineering

Learning and Teaching Strategy 2011-2013

A guide for students

Introduction

In consultation with the seven Schools within Science and Engineering, the College has recently revised and updated the Learning and Teaching Strategy. The strategy document is available on the College website¹, but this document aims to present a more student-focussed summary of the strategy's broad aims, and the principles that underpin these aims and our targets over the next 3 years.

One of the key themes running through the strategy is that of a community of learners, of which students form an integral part. In that spirit, we'd welcome your feedback on either this document or aspects of the strategy itself. You can email the Dean of Learning and Teaching in the College, currently Professor Simon Bates, at scedeanlt@ed.ac.uk.

The strategy's broad aims.

We aim to deliver teaching of the highest quality, that balances tradition and innovation appropriately and earns us a reputation for excellence within the University and beyond it. This is the key to providing a first class educational experience for you, our students, not only furthering knowledge and understanding in your subjects of study, but also equipping you with the skills required to succeed in a wide variety of roles and careers beyond university. Our teaching and your learning should embody scientific enterprise: ways of thinking and working that are appropriate to your main subject of study.

The principles that underpin these aims.

These aims are all well and good, but we require a set of principles that we can all agree on and that act as a route map for realising these aims. We've focussed on three sets of related principles: that of a community (which the onus is on *us* as staff to create and nurture); aspects of your learning (where the onus is on *you* to take control); and on effective assessment and feedback (which is a *shared* enterprise).

1. Community

Teaching is one of the core functions of the university, and we will promote it as a valued, scholarly activity. We will evaluate what is and is not effective, drawing on evidence rather than anecdote, which will enable us to make enhancements to courses and their delivery. It is not easy to measure teaching effectiveness, but we should utilise aspects of student, peer- and self-evaluation to attempt to do this. Everyone delivering teaching is expected to do so to a high standard, and improved mechanisms to recognise and reward those consistently delivering excellent / innovative teaching, or significant leadership in teaching, should be strengthened.

¹ Link to strategy page

We will more effectively share things that are effective in teaching and learning, within and between our disciplines, but also more widely across the whole institution and subject networks beyond the university. Although teaching different students in very different contexts, there may well be things that staff in a School in Science and Engineering can learn from colleagues in the Humanities.

As students, you are valued, key members of our community, taking full part in discussions and consultations within your School or discipline.

2. Your learning

As students on our programmes, you should not see yourselves as passive recipients of incontestable knowledge, but rather active constructors of your own understanding. Our programmes should support you in the journey from relative novice towards expert as your progress through your degree. Along the way, you should recognise that as well as expertise in your subject, you will need to develop skills such as the ability to reflect on your understanding and to critically evaluate your own work and progress. This is the key to becoming an effective, independent life-long learner, whatever career path you choose to follow beyond your time as an undergraduate.

Working with other people will be a necessary and valued skill in all careers, and your programme of study here should provide opportunities and facilities for you to acquire and refine the skills needed to operate effectively as part of a team of people working towards a common goal. Similarly essential is the ability to communicate through a variety of media, to a wide spectrum of different people, beyond as well as within your scientific discipline community.

Through your programmes, we aim for you to get a sense of the spirit of enquiry by which our disciplines advance knowledge: this is the essence of the research work that academic staff pursue and the academic environment in which you undertake your studies. The manner through which our research endeavours are advanced is via gradual synthesis of complex and sometimes conflicting information from different sources and domains, not memorisation of facts. Your journey through your own studies should be likewise.

3. Effective assessment and feedback.

Having stressed how important it is to acquire a range of skills and competencies, many within your discipline specialism but some more general, we must make sure that our assessment practices should fairly evaluate both.

Having an enormous volume of material and / or assessment on a particular course can often provide little or no time to be able to reflect on what is important and consolidate what has been learned. We must make sure that curricula balance both quantity and quality of learning, using a wide range of assessment tools and strategies.

Not all assessments have to carry a mark 'that counts', and when one is present, the mark is often not the most important thing. Sometimes the most valuable thing to be learned from an assessment is what gaps exist in your understanding and how to improve the next piece of work you have to submit. Feedback that is effective, timely and helpful is a key ingredient in this process. There is a shared responsibility on us to provide it, and on you to seek out opportunities for feedback, and to make the most of it.