

This paper sets out a revised College Learning and Teaching Strategy for 2011-13, written between Dec 2010 and March 2011, based on consultation and discussions with key College and School staff. It builds on the principles of the existing strategy, initially formulated in 2005, with more clearly defined targets that reflect the current challenges and opportunities that we face.

The strategy articulates with the developing University Learning-Teaching Enhancement Strategy and is intended to guide and inform, but not rigidly prescribe, School-level implementation of developments in and enhancement of learning and teaching.

College of Science and Engineering

Learning and Teaching Strategy 2011-2013

Overarching aims

A1. To deliver taught programmes of the highest academic quality and to be renowned within and outside the University as a source of innovation in learning and teaching.

A2. To provide an excellent educational experience for all our students, supporting them in becoming highly effective learners, and equipping them with the skills required in their chosen discipline as well as those required for a wide range of intended careers.

A3. To embed the principles and practice of scientific enterprise at all levels of teaching, enabling all students to develop the authentic ways of thinking and practising appropriate to their discipline.

Strategic principles to realise these aims

P1. A supportive, scholarly community of practice (A1, A2)

- Within our academic community, we will promote the scholarship of teaching and learning, informing enhancements to teaching practice and evaluating effectiveness using evidence-based approaches. Scholarship in teaching and learning will be supported by appropriate mechanisms of recognition and reward for innovation, leadership and excellence.
- We will share effective practice between disciplines within and outside the College, developing and strengthening links through the Institute for Academic Development (IAD) and within discipline networks beyond the University.
- Key members of our community of practice are our students. They will play an active role in developments to our practices through consultation and discussion.

P2. Learning independently, collaboratively and with a spirit of enquiry (A2, A3)

- Our programmes should encourage students to become active constructors of their own knowledge and understanding, developing their autonomy and self-reliance rather than being passive recipients of received wisdom.
- Self-reflection, and the associated abilities necessary to critically evaluate one's own work, will prepare our graduates to be independent and effective life-long learners.

- Working collaboratively will be an essential skill for all our graduates, and their studies should provide opportunities and facilities, both formal and informal, to facilitate the development and refinement of requisite skills.
- Permeating throughout a student's learning experience should be the authentic spirit of enquiry by which our disciplines advance knowledge.
- The articulation between teaching and research should be promoted at all levels of our programmes and capitalised upon, illustrating knowledge advancement as a process of gradual synthesis of information from different sources and domains, not memorisation of facts.
- Our graduates should be capable of articulating and communicating a broad spectrum of complex ideas and issues and be able to discuss, debate and negotiate these, within and beyond the scientific community.

P3. Appropriate assessment, effective feedback (A1, A2)

- Our assessment practices should fairly evaluate both the domain-specific knowledge and expertise and the acquisition and development of a broad range of skills and competencies.
- We will be mindful of making necessary space in curricula to balance quality and quantity of learning, utilising a wide range of assessment strategies across our programmes.
- Feedback on assessed work will enable reflection on prior achievements and also feed forward for future assessments.
- Our courses will promote the value of formative assessment to students as a vital ingredient for learning.

Targets for 2011-2013

T1. Building a more effective scholarly community of practice.

- All staff teaching on courses are expected to perform to an high standard, with regard to delivery, assessment and feedback. Various appropriate measures of teaching quality and effectiveness will be used to provide input to the Performance and Development Review process.
- The same processes will be able to evidence contributions from staff in teaching and learning that merit recognition and reward. We will continue to develop and promote career advancement routes for innovation, leadership and excellence in teaching and learning.
- We will further develop our integration and involvement with the IAD, through School secondees and cross-School initiatives that permit curricular development and innovation and that provide relevant training and development in specific areas.
- We will document and actively share effective practice more systematically. This will include themed workshops, more inter-School collaborations and establishing a College-wide teaching and learning 'knowledge base'.
- Our community will involve a wide constituency, including postgraduate tutors and demonstrators, Principal's Career Development scholars, Post Docs and RAs contributing to the teaching programme.

- We will continue to improve our mechanisms for academic and pastoral support for students, at all levels of our programmes, but particularly in their transition to studying at the University. We will consistently apply, and monitor progress against, the *Standards and Guiding Principles for Academic and Pastoral Support*.

T2. A wider range of assessment practices to develop and assess relevant skills.

- Our assessment practices should incorporate a broad range appropriate to the discipline, explicitly making room for formative development of skills as well as summative assessment of curricula.
- Where time-limited written assessments are utilised, we should make use of a more diverse range of formats, including open-book and / or take home exams.
- Assessments should test knowledge, application and higher-order skills such as synthesis of material or techniques going beyond what is covered in courses in appropriate combinations for the level of the course.
- We will share practice for the assessment of common skills, *e.g.* 'problem solving'
- We will document and evaluate the impact of changed practices, *e.g.* through QA/QE.
- We will continue to ensure that assessment regulations permit developments in practice to take place and work to develop and refine them where they do not.

T3. A broader cohort base and experience (PG and UG, on-campus and off).

- We will continue to recruit talented and motivated students who can develop to their full academic potential whatever their personal, social and educational background. Where competition for places is high, we will recruit sustainable and manageable numbers.
- New programme development, and periodic review of on-going provision, will be informed by market demand and a strong business model that accurately reflects the full costs of development and delivery.
- We will establish the Integrated Foundation Programme (IFP) to permit suitably well-qualified students to access (the majority of) our programmes. We aim to recruit 75 students to the IFP by 2013.
- We will lay foundations for and then build capacity in Online Distance Learning (ODL) in areas with a proven market demand or relevant area of provision at PGT. Our approach will be collaborative and cross-College, to facilitate sharing expertise and emerging experience in pedagogy and infrastructure, and where appropriate, material. We anticipate offering our first distance courses in 2012-13.
- We will explore additional joint international collaborations, *e.g.* 2+2 programmes
- We will develop work / industry based dissertations for PGT students in appropriate areas.

T4. Continued development of the estate to support different modes of learning and teaching

- Our teaching and learning estate encompasses both physical and virtual spaces. Both will be developed collaboratively, with appropriate sharing of innovative practice.
- We will evaluate the use of recently refurbished spaces used by CSCE students, from the perspective of both staff and students, with the aim of greater understanding of what enables and inhibits innovative teaching methodologies and changing ways of learning.
- These findings will inform future developments in both teaching and study spaces, principally the new KB Library / KB centre developments but also on-going School redevelopments.