

College of Science and Engineering

Learning and Teaching Strategy

- **Why?**
- **The process so far**
- **The Strategy**
- **What happens next**



The needs of our students are changing

- **More diverse**
 - Non-traditional backgrounds
 - International students
 - Disabled students
 - Financial pressures and work commitments
- **Changing expectations of students and employers**
 - University education as preparation for working life
 - Frequent changes of job
 - Occasional changes of direction
 - Emphasis on adaptability
 - Our graduates as “managers” of their own personal development



- **Changing skills and attitudes to learning**
 - The IT generation
 - Instant access to information
 - Perpetual communication
 - Unfamiliarity with learning from lecture-style presentations
 - Potential for asynchronous learning



Other drivers for change

- **Meeting aspirations of academic staff to do things better *and* more efficiently**
- **Economics**
 - Costs (primarily staffing) rising faster than income per student
 - Requires greater efficiency or unplanned transfer of resources from research to teaching.
- **The Teaching Estate**
 - Funding opportunities for much needed renovation
 - Ineffective to develop in an *ad hoc* way
 - Need to design for FUTURE learning and teaching styles



- **Opportunities for innovation**
 - Explicitly exploiting students' new skills and learning styles
 - Interactive and collaborative learning
 - Self-assessment as a partial substitute for formal assessment
- **Shared perceptions of problems**
 - Poor attendance at lectures
 - Failure to keep up with work
 - Focus on assessment rather than learning



The process so far

- **Working Group set up in October 2004**
- **Reported to College Undergraduate Studies Committee and College Strategy and Management Committee in May 2005**
- **Approved October 2005**



The **Learning and Teaching Strategy** will

- **increase the students' sense of responsibility for their own learning, permitting**
- **diversification in teaching practice, and**
- **a reduction in formal teaching and summative assessment.**



Learning and Teaching Strategy

The College of Science and Engineering adheres to the following *Principles*.



The Scholarship of Teaching and Learning

We are committed to the scholarship of teaching and learning. As academics, we will learn how to develop our teaching approaches in order to achieve better learning by our students, and to help them to develop as effective and independent learners.



Learning with Enquiry

We are a scholarly community based on enquiry, and on generating knowledge. Students will be made familiar with the scientific method from the beginning of their studies; there will be a strong strand of learning with enquiry (learning to ask the right questions) at all levels, integrated where possible with our research activities.



Personal Learning

Our learning environment, and the requirements and expectations that we communicate to students, will be designed to ensure that they are given, and feel, a genuine responsibility for their own learning, seeing rewards and benefits from effectively managing their activities, and negative consequences from failing to do so.



Collaborative Learning

Collaborative learning of an informal nature will be encouraged and study-support measures will be designed with that in mind. Where possible, our degree programmes will contain significant elements of formal collaborative learning, supported by academic staff and by flexible computer-based interactions.



Flexibility of Learning Styles

Wherever possible, learning opportunities will respond to the variety of students' circumstances, experience and aptitudes.



Assessment for Learning

In pre-honours years, preparedness to progress to the next level and excellence will be assessed by separate elements of summative assessment. The extent of formal summative assessment will be the minimum required for these purposes. Students will monitor their own learning by self-assessment.



Assessment for Learning (contd.)

In honours years, summative assessment will be the minimum required to assess the students' achievement. Students will monitor their own learning by self-assessment.

All assessment should be formative, in the sense that students receive feedback on (or can self-assess) their performance.



What happens next

- **Set of coordinated activities in individual Schools and at College level.**
- **Project overseen by the College Undergraduate Studies Committee.**
- **Significant impact on students from academic year 2007-8.**



First initiatives will be in

- **The Estate**
 - Appleton Tower refurbishment
 - Development of Teaching Estate Strategy
 - Possible Learning Resource Centre at KB
- **Assessment**
 - Reduction in load of formal assessment
 - Effective use of self-assessment
- **Student learning**

