



**The University of Sydney**

**Faculty of Engineering**

**STRATEGIC PLAN**

**FOR**

**TEACHING AND LEARNING**

**2004 - 2006**

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## **1) FACULTY OF ENGINEERING STRATEGIC PLAN FOR TEACHING AND LEARNING 2004-2006**

### **MISSION**

To be the premier Engineering Faculty in Australia, to be the first choice for undergraduate and postgraduate students, to attract the best quality academic staff and research personnel, and to be ranked and benchmarked with the World's best engineering faculties.

### **BACKGROUND**

The Faculty of Engineering is located in the College of Sciences and Technology, allowing optimisation of synergies with the other faculties in the college, particularly the Faculty of Science. In 2005 the total student enrolment in the Faculty was 3,029, with a student load of 2,012. The 2005 Faculty comprised 89.3 EAS (teaching and research academics), and has a staff-student ratio (SSR) of 22.5.

The Faculty comprises four schools. These are the:

- School of Aeronautical, Mechanical and Mechatronic Engineering
- School of Chemical Engineering
- School of Civil Engineering
- School of Electrical and Information Engineering.

## STRENGTHS

As a result of major restructuring in our programs over the last three years, the Faculty of Engineering offers coursework degrees in the following: Bachelor of Engineering (BE); Master of Engineering Studies (MES); Master of Engineering Practice (MEP); Master of Environmental Engineering Practice (MEEP); Master of Mechatronic Engineering (MME); and Master of Project Management (MPM).

The bachelor of Engineering Degree can be taken in one of the following specialisations: Aeronautical Engineering; Chemical Engineering; Civil Engineering; Project Engineering and Management (Civil); Mechanical Engineering; Mechatronic Engineering; Electrical Engineering; Computer Engineering; Telecommunications Engineering; and Software Engineering & Ecommerce Engineering.

The BE degree can also be taken in combination with Science, Commerce, Arts or Law. Further combined degrees will be offered in the near future with Music, Medical Science and Architecture.

Within each specialisation there are additional learning streams as follows:

- Faculty of Engineering:
  - **Flexible First Year & Advanced Engineering**
- 4 additional streams in Civil Engineering:
  - **Environmental; Construction Management; Geotechnical; Structural**
- Chemical Engineering:
- 1 additional stream in Aeronautical Engineering:
  - **Aerospace**
- 2 additional streams in Mechanical Engineering:
  - **Mechanical Space & Biomedical**
- 1 additional stream in Mechatronic Engineering:
  - **Mechatronic Space**

The Flexible First Year allows students to have a substantially common first year experience prior to selecting a specific learning area within one Engineering department. Currently all departments, with the exception of Electrical, participate in the Flexible First Year. EIE will begin participation in 2007. Another strength in this area has been the introduction of the Advanced Engineering Stream which introduces engineering project work to high achieving 1<sup>st</sup> year students in semester 1 of their first year. The

numbers in this program are increasing with each year. This program has been successful in attracting the brightest students to engineering at Sydney University.

The Faculty has begun a process of curriculum review and renewal. The aim of this is to maintain the relevance of programs offered and to respond to policies of the University and the recommendations of the Academic Board Quality Assurance reviews. Commencing in 2004, the Flexible First Year has commenced. In 2005 a renewed curriculum based on a 6 credit point model was successfully instituted across the undergraduate years.

The Faculty will continue to focus heavily on teaching and learning in the period 2004-06. This will take the form of:

- Annual Teaching Advance workshops
- Regular T&L seminars
- Ongoing development of QA processes at the Unit of Study level
- Continued implementation of the recommendations of the Academic Board QA reviews
- Development and consolidation of T&L Benchmarking relationships with domestic and international partners
- Development of Faculty-based T&L performance indicators, with budget funding for teaching improvement
- Explicit articulation of learning pathways within degree programs in the renewed curriculum.

The unified Faculty Unit of Study Evaluation (USE) approach to improve the Quality Assurance (QA) of Teaching and Learning, will be reviewed and its administration improved. The QA of T&L will be enhanced through the development of standardised and well aligned UoS outlines, supported by the development of a web-based T&L database. This work was undertaken in 2004 using a TIF Grant, and launched in 2005.

The work of the faculty in T&L benchmarking will be consolidated in 2006. Our domestic partners (Melbourne and Queensland) meet regularly as a “Group of Three T&L Benchmarking Roundtable”. The next meeting will be in Brisbane in mid-2006. At this meeting we will discuss expanding our work to become the Australian hub of the international engineering education network CDIO, a consortium of 15 universities.

The recommendations from the 2002 & 2003 Academic Board QA reviews continue to be implemented. The reviews have provided valuable information and perspectives for the improvement of Faculty T&L practices and policies. We await the proposed 2007 Academic Board QA reviews.

## **WEAKNESSES**

The major obstacles to improving teaching and learning have been the declining funding base precluding the introduction of major resource intensive initiatives; and the decline in the number of students choosing physical sciences at HSC level leading to fewer students being well equipped to study Engineering.

One of the current weaknesses resulting from the degree structure is that teaching for the BE degree is done relatively independently by schools running the specialisations. This has led to some duplication of teaching effort with consequent unnecessary increase in workload. It is believed that the current curriculum renewal process will improve this situation over time.

The SCEQ results for Engineering remain an issue with only 30% of students agreeing that teaching in the Faculty is “Good”, while over a third disagreed with the proposition. However, the figures have improved for the first time over the six years of the SCEQ. This remains a source of great concern and provides the impetus for an ongoing emphasis on lifting the quality of Teaching and Learning provision in the Faculty.

While the Faculty has put in place systems and processes to address T&L QA, a difficulty exists at the department level to ensure consistency of action in improving T&L quality issues as highlighted by the USE’s or the SCEQ, as over 90% of the resources reside within departments, this has meant that the Faculty is reliant upon University grants (such as TIF grants) to fund improvement projects.

The ability to address the poor SCEQ results is hampered due to the few members of lecturing staff with qualification directly pertaining to Teaching & Learning. This weakness is difficult to address for 2 reasons. Firstly, the research –oriented nature of the Faculty means that teaching improvement activities (such as Graduate Certificate in HE) are seen as an ineffective career move for academics when compared with research. Secondly, the university infrastructure to take Grad. Cert. students is so limited that it is

unable to cope with the members of staff required to have the necessary result on teaching quality in the Faculty. Despite this, the Faculty has made the Grad. Cert. “strongly advisable” for new academics to undertake. Two of the schools have actually made it compulsory.

## **OPPORTUNITIES**

Over the last few years, the Faculty of Engineering has been concentrating on improving teaching quality and ensuring its programs are attractive to incoming students together with adequate marketing to lift the profile in the community. We have seen considerable success in this especially in attracting students with UAIs in excess of 90.

Restructuring the undergraduate programs together with offering combined degrees and the Advanced Engineering program have seen our entry UAI cut-offs increase from (TER = 61 in 1997) to UAI's ranging from 80 to 99.3.

The SCEQ data for Engineering offer major challenges in turning around student assessment of our teaching. While SCEQs improved for the first time in 2005, approximately 40% of students are ‘neutral’ in their opinion of the Faculty.

Additionally, the areas identified by the Academic Board reviews present great challenges and opportunities for improvement in Faculty Teaching and Learning. These areas feature in the Operational Plan for 2004-06, and to a large extent have already been achieved.

## **THREATS**

The Faculty must continue to work within diminishing government funding, together with aging infrastructure. Additionally the State of New South Wales has the highest ratio of University engineering places per capita in the country. We must maintain our competitive advantage by the quality of programs we offer. The difficulty is the maintenance of program quality in the face of resource restraint.

Master's courses face increasing competition from other Universities in the area, and this

is partly due to their cheaper fee structures, and a more varied offering of Units of Study.

Other possible threats to improvement include the potential for an RQF-driven research environment impinging upon L&T improvement as a strategic priority

## **GOALS**

The major goal related to teaching quality in the University's Strategic Plan is to:

*“The University of Sydney will maintain and enhance its position as an outstanding provider of high quality undergraduate and postgraduate teaching, both in Australia and Internationally”.*

In line with this goal, The Faculty of Engineering's Strategic Plan has the goal:-

*“produce graduates with engineering, technical and generic skills which are recognised nationally and internationally as being of the highest calibre”*

This can be achieved through a number of complementary strategic initiatives, which are part of the University's objectives.

## Section B. OBJECTIVES & STRATEGIES

Objectives	Strategies	Status	Comments
<b>1: Attract, and support the progress of high achieving students from diverse backgrounds</b>	<b>1.1</b> Improve the first year experience (through implementing faculty 1 <sup>st</sup> Year Plan	<b>Ongoing</b>	Ongoing first year Committee working with new Associate Dean 1 <sup>st</sup> Year
	<b>1.2</b> Enhance opportunities for high-achieving students (through continued development of the existing undergraduate Advanced Engineering Unit of Study)	<b>Ongoing</b>	Advanced Engineering UoS modified to be 6 Credit Point each for 2005
	<b>1.3</b> Implement and support the Flexible First Year stream	<b>Ongoing</b>	Begins in 2004, expanding to all schools in 2007
	<b>1.4</b> Monitor progress of Dean's List students	<b>Ongoing</b>	Students closely monitored through Advanced Engineering UoS – have identified and counselled some high UAI students 'at risk'; particularly in maths/physics
<b>1.B</b>			

Objectives	Strategies	Status	Comments
<p><b>2: Ensure University of Sydney Engineering Faculty students enjoy an outstanding experience within a community of learners</b></p>	<p><b>2.1</b> Enhance consideration of ICT in T&amp;L issues within existing T&amp;L mechanisms</p>	<p><b>Ongoing</b></p>	<p>Appointment of Associate Dean for ICT in T&amp;L, Reformation of Faculty IT Committee both complete in 2005</p>
	<p><b>2.2</b> Improve the international experience for all students.</p>	<p><b>Ongoing</b></p>	<p>Appointment of Asso.Dean – International in 2004</p>
	<p><b>2.3</b> Strengthen the on-campus educational experience for all students.</p>	<p><b>Ongoing</b></p>	<p>Successfully launched unified 6 credit point curriculum in 2005</p>
	<p><b>2.4</b> Implement the University and IEAust Graduate Attributes policies consistent with an internationally focused, research – led teaching environment.</p>	<p><b>Ongoing</b></p>	<p>Faculty TIF focus 2005 - was GA's. TIF application for 2006 unsuccessful Postgrad res places in 2 schools – only partially filled</p>
	<p><b>2.5</b> Investigate the advantages of a core curriculum for junior undergraduates to address issues of coherence, student and staff workloads and the development of generic attributes.</p>	<p><b>Completed</b></p>	<p>Curriculum reviews/renewal/consolidation largely finished 2005. EIE to finish by October 2006 for EA accreditation purposes.  Integration with USyd assessment policy focus for 2006</p>
<p><b>1.B</b></p>			

Objectives	Strategies	Status	Comments
<p><b>3: Realise the benefits of research intensive Teaching &amp; Learning environment</b></p>	<p><b>3.1</b> Raise staff student awareness of the research – teaching nexus</p> <p><b>3.2</b> Further develop inquiry based approaches to Teaching &amp; Learning</p> <p><b>3.3</b> Consolidate existing evidence-based teaching practices</p>	<p><b>Ongoing</b></p> <p><b>Ongoing</b></p> <p><b>Ongoing</b></p>	<p>Faculty to maintain a commitment to Research Led Teaching through working group activities, encouragement of researchers within undergraduate teaching. Liaise with Asso. Dean – Research to create full synergies.</p>
<p><b>1.B</b></p>			

Objectives	Strategies	Status	Comments
<b>4: Recognise, support and reward teaching excellence</b>	<b>4.1</b> Enhance staff awareness of faculty and University teaching awards	<b>Ongoing</b>	Encouragement for entering University Awards. Successful in Faculty lecturer winning CST Teaching Award in 2005. Faculty submits nominations to USyd for Carrick Institute Outstanding Teaching Citations.
	<b>4.2</b> Enhance academic leadership for Teaching & Learning	<b>Completed</b>	All schools have T&L committees/working groups. All schools have T&L Directors in place.
	<b>4.3</b> Support casual staff to deliver high quality Teaching & Learning	<b>Ongoing</b>	Instituted faculty based Tutor Training and Certification in 2005. Ongoing for 2006.
	<b>4.4</b> Link the T&L Scholarship Index funds for completion of Grad. Cert. In HE to relevant department/academics for UoS teaching advancement/resources	<b>Ongoing</b>	Most departments 'reward' Grad.I Cert completion with Scholarship Index funds for UoS development
	<b>4.5</b> Develop faculty budgetary mechanism linked to department Teaching & Learning performance	<b>Ongoing</b>	Faculty TPI's began in 2005.
<b>1.B</b>			

Objectives	Strategies	Status	Comments
<b>5: Consolidate leadership among research intensive Universities in the management and evaluation of teaching</b>	<b>5.1</b> Further development of benchmarking of Teaching & Learning outcomes and processes	<b>Ongoing</b>	Development and consolidation of both domestic and international benchmarking partnerships
	<b>5.2</b> Examine how the faculty can develop a resource allocation system based on teaching performance	<b>Completed</b>	Instigation in 2005 of Faculty TPI's with \$100k Allocated for teaching improvement
	<b>5.3</b> Improve procedures for student evaluation of teaching. UoS and programs to maintain best practice	<b>Completed</b>	Faculty USE and QA in place for new curriculum
	<b>5.4</b> Review effectiveness of current procedures for managing Teaching & Learning quality	<b>Completed</b>	Began QA for UoS outlines in 2005 to complement USE QA. QA key element of Faculty TPI's
<b>1.B</b>			

## 2. Faculty of Engineering Operational Plan for Teaching & Learning 2004 – 2006

Objectives	Strategies	Actions	Performance Indicators	Responsibilities	Timing	Status
<b>1: Attract, and support the progress of high achieving students from diverse backgrounds</b>	<b>1.1: Continuous improvement of the 1<sup>st</sup> year experience.</b>	Maintain and improve existing 1 <sup>st</sup> year plan	1 <sup>st</sup> year SCEQ results	HODs , Associate Deans T&L & 1 <sup>st</sup> Year, 1 <sup>st</sup> Year Committee & T&L Committee	12/04	Completed
		Evaluate impact of plan	Staff/student liaison issues – type & quality		12/05	Ongoing
	<b>1.2: Enhance learning opportunities for high achieving students</b>	Maintain and enhance Adv Eng stream	Adv Eng evaluations and enrolments	Dean, Ass Dean T&L, Adv Eng Coordinator	12/05	Completed
		Appoint Adv Eng coordinator & working group	Establish coordinator & working group	Dean	3/04	Completed
		Implement Adv Eng review recommendations	Degree of implementation & Adv Eng student evaluations	Dean & Adv Eng Coordinator/working group	12/04	Completed
		Implement Flexible First Year	Student evaluations of relevant UoS			
	<b>1.3: Implement and support the Flexible First Year stream</b>	Implement Flexible First Year	SCEQ results	Dean & Adv Eng Coordinator/working group	12/04	Completed
					12/06	Ongoing – phase 2
	<b>1.4: Monitor progress of Deans list students</b>	Compare SCEQ results of Deans list with Faculty sample results		Dean, Assoc Dean T&L, T&L Committee with ITL assistance	12/05	Ongoing
2						

Objectives	Strategies	Actions	Performance Indicators	Responsibilities	Timing	Status
<b>2: Ensure University Engineering Faculty students enjoy an outstanding experience within a community of learners</b>	<b>2.1: Enhance consideration of ICT in T&amp;L issues within existing T&amp;L mechanisms</b>	Review ICT in T&L issues particular with regard to infrastructure, support, pedagogy and QA	Completion of reviews	Dean, Assoc Dean T&L, ICT Working group rep, T&L Committee	12/05	Ongoing
		Ongoing support for exchange programs Review of University of Sydney support for all international students in Faculty	Number of exchange agreements Number of students on exchange Completion of review	Dean, HODs, Assoc Dean International, Marketing Manager	12/05	Completed
	<b>2.2: Improve international experience for all students</b>	Addressing concerns raised in USE's staff/student liaison meetings and SCEQ survey results	Improved USE & SCEQ results Fewer S/S liaison concerns	Dean, HODs, Assoc Dean T&L, T&L Committee	12/05	Ongoing
		Ensure 6 credit point curriculum renewal results in more complete and fully aligned T&L info for all UoS through standardised faculty UoS outline	Compliance levels of aligned UoS outlines	Assoc Dean T&L, T&L Committee, HODs	12/05	Completed
		Development of web-based database for all UoS All UoS outlines on web-based database Ensure all UoS outlines include research based rationale for teaching of assessment practices, grade descriptions, explicit graduate attributes, learning outcomes and that these are coherently aligned to improve student understanding Actively benchmark faculty T&L processes and practices with domestic and international partners	Implementation	Assoc Dean T&L, U/Grad T&L Directors, T&L Committee	3/05	Completed
<b>2.3: Strengthen our campus educational experience for all students</b>						
<b>2.1</b>						

Objectives	Strategies	Actions	Performance Indicators	Responsibilities	Timing	Status	
<b>3: Realise the benefits of a research intensive T&amp;L environment</b>	<b>3.1: Raise staff-student awareness of research teaching nexus</b>	Utilise Research led Teaching to enhance T&L particularly in undergraduate UoS Encourage through T&L seminars	Utilise U/Syd performance indicators for RLT	Assoc Dean T&L, Assoc Dean Research T&L Committee	12/05	Ongoing	
		<b>3.2: Further develop inquiry based approaches to T&amp;L</b>	Encourage through T&L Seminars and teaching advances Utilise in 6 Cr Pt curriculum renewal Support T&L aspects University inquiry based program for HODs as academic managers		Assoc Dean T&L, Assoc Dean U/Grad T&L Committee	12/04	Completed
	<b>3.3: Enhance evidence based teaching practices</b>		Enhance T&L reflection and scholarship through :- Submissions for VC's teaching awards CST& VC's T&L Showcases Development of staff targets for Grad. Cert in HE Compulsory Grad. Cert in HE fir new staff Continued T&L Seminars and teaching advances Include research based rationale for teaching & assessment practices for all UoS Implementing grade descriptors based on research evidence, for all UoS	Levels of staff involvement, support of Dean, HODs & Senior Academics	Dean, HODs, Assoc Dean T&L, T&L Committee	12/05	Completed
				Inclusion in standard faculty UoS outline		3/05	Completed
						3/05	
						3/06	Completed
<b>2.2</b>							

Objectives	Strategies	Actions	Performance Indicators	Responsibilities	Timing	Status
<b>4: Recognise support and reward teaching excellence</b>	<b>4.1: Enhance staff awareness of and involvement in Faculty and University teaching awards and showcase</b>	Promote participation in awards and showcases	Levels of Participation	Dean, HODs, T&L Committee	12/04	Completed
	<b>4.2: Enhance academic leadership for T&amp;L</b>	Support University program for academic managers Review role of Assoc Dean to enhance T&L effectiveness Develop faculty policy on Grad. Cert HE participation	Participation levels	Dean, HODs, T&L Committee	12/05	Completed
			Development & participation		12/05	Completed
			Completion Implementation		12/04	Completed
	<b>4.3: Support casual staff to deliver high quality T&amp;L</b>	Implement Faculty wide tutor training Mentoring/buddying for casual, lecturers with a full time Academic	Instigation of policy. Participation levels in Grad. Cert	T&L Committee, Undergrad T&L Directors	12/05	Completed
					Dean, HODs, Faculty Finance Manager	12/04
	<b>4.4: Link Grad. Cert HE component of T&amp;L Scholarship index funding for completing academics to UoS teaching resources for these academics</b>	Transfer funds to UoS accounts for completing academics	Completion of investigation	Dean, Assoc Dean T&L, HODs, T&L Committee	12/05	Completed
					12/05	Completed
<b>4.5: Develop Faculty budgetary mechanism linked to Department T&amp;L performance</b>	Investigate suitability of SCEQ/USE instrument for this  Implement mechanism					
<b>2.3</b>						

Objectives	Strategies	Actions	Performance Indicators	Responsibilities	Timing	Status		
<b>5: Consolidate leadership among research intensive Universities in the management and evaluation of teaching</b>	<b>5.1: Further development of benchmarking of T&amp;L outcomes and processes</b>	Consolidate domestic T&L benchmarking	Completion	Assoc Dean T&L, T&L Committee	12/04	Completed		
		<b>5.2: Examine and develop a resource allocation system based on teaching performance</b>	Examine and develop system	Completion	Dean, HODs, Assoc Dean T&L	12/05	Completed	
			<b>5.3: Improve procedures for evaluation of programs, UoS and teaching</b>	Change department administration role for USE's selection of bulk ordering	Completion	Assoc Dean T&L, HODs & departments, Deans Office	6/04	Completed
				Maintain follow-up with HODs of outcomes of USE evaluations	Completion	Dean, HODs, Assoc Dean T&L, T&L Committee	12/04	Completed
				Enhance dialogue and action at all levels over SCEQ results	Implementation		12/05	Completed
<b>2.4</b>								

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
<b>1: Attract, foster and graduate an increasing proportion of the most intellectually able students</b>	<b>1.1</b> Continue to provide specialist degree paths and combined degrees whilst maintaining flexibility of choice.	<b>1.1</b> Completed	New E-Commerce path introduced – 4 specialist paths each with 3 combined degrees. Combined Eng./Medical Science degree since 2001		
	<b>1.2</b> Improve the first year experience by increasing opportunities for project work, introducing more engineering content into 1 <sup>st</sup> year, expand the Parent Night concept to other Departments.	<b>1.2</b> Ongoing.	Implement First Year Plan. New First Year Stream in 2004. Parent night extended to 2 depts. Other depts. have 1st year social functions instead. All depts. have some group work in year 1.		Flexible First Year underway. Parent night now A total Faculty event
	<b>1.3</b> Actively consider alternatives to large lectures, such as small group teaching, and where large lectures remain, encourage the introduction of more interactive student centred teaching methods.	<b>1.3</b> Ongoing	All engineering 1 <sup>st</sup> year courses are run in parallel streams and contain small group teaching in groups.		
	<b>1.4</b> Mentoring by later year students and personal advisors; models for peer support in other faculties will be investigated to see if they are appropriate for Engineering	<b>1.4</b> Ongoing	<i>Working models are still being investigated in several departments.</i> Each dept. have active student societies.	Not Completed. Student mentors not implemented	Ongoing
	<b>1.5</b> In order to attract high quality students to Master's programs, efforts will be made to advise our own undergraduates of the opportunities to carry out postgraduate study. Cooperation with Universities in China is also being discussed as a way of obtaining more students and students of high quality, especially in the Project Management area.	<b>1.5</b> Ongoing			Ongoing

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
<b>2: Foster continuous improvement in quality and continuous innovation in teaching and learning, supported by appropriate resources and adequate recognition.</b>	<b>2.1</b> Ensure all Departments have a Director of Undergraduate Studies and a Director of Teaching & Learning with well-defined responsibilities and accountabilities, and that these work with the Head of Department to develop and implement an operational Plan for Teaching and Learning in line with the Faculty and University Plans.	<b>2.1</b> Completed	Directors of U'grad. Studies and Directors for T & L appointed. Departmental plans are yet to be completed.		Completed & Ongoing
	<b>2.2</b> Ensure all department havestaff/student liaison meetings at least every Semester and follow up as required. Continue to conduct qualitative research on Teaching and Learning issues to ensure that the Faculty is better informed of student's views of their learning experiences and to complement the information delivered in quantitative performance measures such as the SCEQ.	<b>2.2</b> Ongoing	Staff student liaison meetings are formally set-up in all Departments. Action on previous items are reported at next meeting. Renewed emphasis on liaison meetings as per Academic Board recommendations.	Completed	
	<b>2.3</b> Enable students to take responsibility for their own learning and continue to head off poor performance by early review and warning systems and mentoring	<b>2.3</b> Ongoing	Early review and warning systems are in place. Students at risk are contacted and helped. Mentoring systems are implemented in some departments. Students are encouraged to take responsibility in so far as contact hours are being reduced and examination processes, systems and rules are clearly articulated to students well in advance.	Completed & Ongoing	Ongoing
	<b>2.4</b> Continue to reward and encourage good teaching by the Dean's Awards for Teaching Excellence, hold annual Teaching Advances, and Teaching and Learning seminars to ensure that staff have available avenues to discuss teaching and learning issues and	<b>2.4</b> Completed	Awards held annually. Four Teaching Advances held since 1999. Five T&L Seminars held per annum.		Ongoing

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
	<p>innovations. Provide incentives to staff Teaching and Learning Seminars by making them rewarding both socially and in terms of transfer of teaching experience</p> <p><b>2.5</b> Continue to embark on Flexible Learning initiatives with use of the WEB as a resource base as well as development of Engineering Laboratory Simulations and Internet Learning Opportunities.</p> <p><b>2.6</b> Continue to upgrade facilities to provide appropriate teaching spaces with up to date computer and audio-visual facilities, and manage Faculty facilities to respond to changing needs with regards to requirements for new methodologies of teaching [indicators: condition of lecture theatres, flat teaching spaces available, SCEQ]</p> <p><b>2.7</b> Standardise Unit of Study Outlines across the Faculty, ensuring each unit of study has learning outcomes and assessment requirements outlined at front end of course, and that these are made explicit to the students, and that they include criteria in line with the University policy on criteria-based</p>	<p><b>2.5</b> Ongoing</p> <p><b>2.6</b> Partially completed</p> <p><b>2.7</b> Partially completed</p>	<p>All courses use the web in varying degrees, with web-based assessment, chat rooms, simulations, tutorials and information distribution. Major initiatives have been in Project Management and in Process Control. The web based delivery of Master's degrees, Diplomas and Certificates in Project Management will be continued and new markets will be developed. The most promising areas are China, Hong Kong and Singapore.</p> <p>The PNR Lecture theatres have been refurbished (2000) . A new computer Lab was opened in AMME in 2001 and Civil Engineering is upgrading its departmental computer laboratory with new computers</p> <p>Some departments have outlines on web for all Units of Study (AMME &amp; EIE) whilst in others outlines are handed out. 50% of Unit of Study Outlines will be on the faculty Website with hotlinks where appropriate by the end of 2001</p>	<p>Ongoing</p> <p>Completed – subject to space review through Faculty, CST &amp; Uni 2010 planning</p> <p>Ongoing – Faculty focus for TIF 2004 Project</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Completed</p>

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
	<p>assessment [indicators: no. of Unit of Study Outlines available on WEB, SCEQ] (90% of unit of study outlines on WEB by 2003)</p> <p><b>2.8</b> Encourage teaching staff to review course content and focus more on teaching processes to ensure a student-centred, inclusive learning environment for students of diverse backgrounds and come to agreement with students that overall performance is a two-way contract dependent on both the Faculty's teaching and their own learning. Provide teaching relief for at least 1 academic in each department for 1 semester each year to enable them to work, in collaboration with ITL, on a teaching development project. [indicators: SCEQ, progression rates] (20% of academic staff to have had teaching relief by 2005)</p> <p><b>2.9</b> Encourage all new staff, by providing teaching relief, to undertake ITL training courses, including the 'New University Teachers' Program, and to develop their own strategies and methodologies for continuous improvement in teaching, and encourage staff to take teaching sabbaticals either at ITL or abroad to spend time developing teaching methods [indicators: ITL courses taken, teaching sabbaticals taken, participation in Faculty Teaching and Learning Committee activities]</p>	<p><b>2.8</b> Progressing</p> <p><b>2.9</b> 90% of new staff to attend NUT program by 2003</p>	<p>No staff have requested teaching relief</p> <p>Conditions of appointment of all new staff require attendance at ITL training course. Some New staff have tried but been unable to attend New Teachers program because the course has been full. Apparently problems with communication re places with ITL.</p>	<p>Ongoing</p> <p>Completed for new staff to undertake ITL 3 day program. Ongoing to enhance enrolment in Grad Cert HE</p>	<p>Ongoing</p> <p>Ongoing</p>

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
<b>3: Support students in developing Engineering and the University's generic attributes</b>	<b>2.10</b> Ensure the ongoing relevance of Advanced Engineering Program	<b>2.10</b> New		Ongoing Adv Eng Coordinator and working group established	Completed and Ongoing
	<b>2.11</b> Ensure consistency & quality in Assessment practices across the faculty	<b>2.11</b> New		Ongoing – part of TIF2004 (see 2.7)	Ongoing
	<b>2.12</b> Assure the quality of UoS offered Faculty	<b>2.12</b> New		Ongoing – see 2004 – 06 T&L P	Ongoing
	<b>3.1</b> Articulate generic attributes appropriate to engineering graduates in line with University's generic attributes and those identified by The Institution of Engineers.	<b>3.1</b> Ongoing	Departments have been discussing generic attributes with varying degrees of agreement.	Completed – to be Intergrated into TIF2004	Completed/Ongoing
	<b>3.2</b> Build generic skills into the learning outcomes for each unit of study, ensuring both curriculum content and assessment practices contribute to the development of these skills.	<b>3.2</b> Ongoing	In progress. Generic attributes identified in UoS outlines. In Chemical Engineering, Generalist exams' for first-years started in 2001. Need to extend to other departments.	Ongoing – part of TIF 2004	Ongoing
	<b>3.3</b> Implement testing of students' generic skills at entry and graduation to monitor progress in this area			Not completed	

Objectives	Strategies	Status	Comments	2003 Progress	2004 Progress
<b>4: Provide curricula that are informed by current research, scholarship and professional practice and result in graduates well equipped to contribute to the Engineering profession</b>	<b>4.1</b> Active employer involvement through departmental industry curriculum advisory committees.	<b>4.1</b> Completed	Several meaningful exchange programs have been established. Currently approx. 1.5% of students are on exchange. Benchmarking with Uni. of Michigan Engineering – will extend by 2004		Ongoing
	<b>4.2</b> Establish meaningful exchange programs and benchmark programs against highly regarded local & international schools.	<b>4.2</b> Ongoing			Links established
	<b>4.3</b> Survey graduates and employers 5 years after graduation to assess whether their degrees have equipped them well for their career development	<b>4.3</b> Partially completed	Not Completed		
	<b>4.4</b> Establish programs to attract more students of higher quality into the Master's degree courses. New initiatives are: Certificate in Greenhouse Gas Emissions, new courses in Automation in Field Robotics and Master of Information Technology degree (in conjunction with Science) and the Master of Information Systems degree (in conjunction with the Faculties of Science and Commerce and Business.	<b>4.4</b> Ongoing	Once the MIT and MIS degrees are established, the MES degree will be phased out in Electrical and Information Engineering. The introduction of the Master of Business and Technology degree (jointly with the Business School) is currently being considered. Recruitment of students from China into the Master of Project Management degree as well as the MES degree are also strategies for increasing student numbers.		
	<b>4.5</b> Ensure continued 'good fit' between degree programs and the working life as a professional engineer.	<b>4.5</b> New			

