

SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: Engineering and Information Technologies
Department/School presenting the proposal:

Faculty Contact person: Dr Liaquat Hossain Ext No. 69110

Academic Proponent

Email: l.hossain@usyd.edu.au

Date course approved by Faculty:

- 1.1.1. Type of proposal:** **New**
Amended *Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.*
Deletion *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

- 1.1.2. Type of course:** **Undergraduate**
Postgraduate coursework
Postgraduate research
Other (provide details)

1.1.3. Name of award course(s)

Name of new award course/s: Master of Professional Engineering

1.1.4. Abbreviated name

MPE

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

Deletion: Year Semester

1.1.6 Availability to students

- | | | | |
|-----------------------------------|-------------------------------------|-----------------------------|-------------------------------------|
| Commonwealth supported students | <input checked="" type="checkbox"/> | Full-time | <input checked="" type="checkbox"/> |
| | | Part-time | <input checked="" type="checkbox"/> |
| Fee-paying local students | <input checked="" type="checkbox"/> | Full-time | <input checked="" type="checkbox"/> |
| | | Part-time | <input checked="" type="checkbox"/> |
| Fee-paying international students | <input checked="" type="checkbox"/> | Full-time | <input checked="" type="checkbox"/> |
| | | Part-time | <input type="checkbox"/> |
| Research Training Scheme | <input type="checkbox"/> | (PG Research students only) | |

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

1.2.1 Purpose of the proposal

The purpose of this proposal is to introduce a new award course, Master of Professional Engineering or MPE degree for new students and also to provide transition pathway for existing Master of Engineering students to transfer to MPE in 2009.

1.2.2 Justification for proposal

A recent Carrick study on the future of the Engineering profession in Australia suggests high demand for engineering skills at all levels, from trade to graduate. Annual graduate surveys also confirm that graduate engineers attract good remuneration, having being ranked 4th on the median starting salary after dentistry, optometry and medicine for the last 5 years. The 2007 graduate engineer median starting salary of \$50,000 was 25% higher than the corresponding figure for business and economics graduates. All engineering discipline areas reported high full-time graduate employment rates (86.2% to 98.7%), compared with the higher education mean of 84.5%.

We are expecting a shortfall of 20,000 professional engineers to meet current demand in Australia in the near future (Carrick Report, 2008). It is important to note that Australian universities are currently graduating fewer than 6,000 domestic bachelors' engineers per year, which is inadequate for supporting the current needs and also future demand in engineering professions. This large shortfall of engineers is, of course, not evenly distributed amongst industry sectors, engineering disciplines nor amongst the levels of engineering expertise most urgently required (Carrick Report, 2008). Therefore, the Faculty of Engineering and IT would like to move towards the creation of a new degree program entitled "Master of Professional Engineering" or MPE, a 2 year professional engineering degree. The MPE program is designed to provide practicing engineers, as well as engineers wishing to enter the practice in Australia, a pathway to acquire the professional, design and domain-specific skills as part of their recognition to engineering practice. This proposal is also a response to the call for the 21st century engineering education reform by American Society for Engineering Education. In a recent debate by the National Society for Professional Engineers, it is noted that it's not enough to simply design and build projects, engineers must be able to grasp the totality of client's mission; develop solutions that add value to client's mission; and link the compensation to value added outcomes as defined by the clients.

American Association for Engineers recently published a document highlighting the need for 21st century engineers to have well developed professional and technical skills. The professional skills may include (i) engineers ability to function on multidisciplinary teams, (ii) an understanding of professional and ethical responsibility, (iii) ability to communicate effectively, (iv) the broad education necessary to understand the impact of engineering solutions within a global, economic, environmental and societal context; (v) ability to engage in lifelong learning; (vi) knowledge of contemporary issues; (vii) understanding of business and public policy and administration fundamentals; and (viii) understanding of the role of a leader and of leadership principles and attitudes.

The Faculty of Engineering and IT at the University of Sydney aims to create this Master of Professional Engineering degree as a new pathway to meet the growing demand for qualified engineers for the 21st century. We propose to create this program to support the training and retraining of 3 different groups of professionals-(i) Non-engineering students wanting to acquire engineering; (ii) Overseas Engineering students wanting to practice locally and internationally; and (iii) Engineers moving into another area from their initial area of specialisations and provide them with solid engineering, professional and research skills needed to meet the Engineers Australia requirement for stage 1 and stage 2 competencies as a practicing engineer.

1.2.3 Benchmarking, market research and analysis

1.2.3.1 Benchmarking:

Research was conducted into which Universities offered a similar degree programme. There are a few universities in Australia offering such a degree, namely: The University of Melbourne, The University of Southern Queensland, UTS and Deakin University. International universities offering a similar degree include the Pratt School of Engineering at Duke University and the University of Wisconsin. UNSW have recently indicated they will be extending their one year Masters to one and a half years to address similar issues.

1.2.3.2 Market research and analysis:

The Faculty of Engineering and IT have looked into the University of Melbourne's Master of Engineering model closely, as this degree has been provisionally accredited by Engineers Australia as part of their five year programme. Our entry pathways will be very similar to Melbourne's undergraduate pathways.

From Faculty visits to China and India, we have obtained positive feedback regarding the need for such a degree which will provide international engineers with the qualifications to work both on a global and local level.

1.2.3.3 Summary table of competitive offerings to proposed award course:

Institute	Competitive offering	Additional information
University of Melbourne	Master of Professional Engineering	This is a 3 year Bachelors degree plus a 2 year Masters
University of Southern Queensland	Master of Professional Engineering	
UTS	Master of Engineering Management	
Deakin University	Master of Engineering (Professional)	

1.2.3.4 Estimated student demand

Estimated student demand	2009	2010	2011
Commonwealth-supported	5	10	15
Local fee-paying	5	10	15
International fee-paying	20	35	50
Estimated Total EFTSU	30	70	110
Lowest EFTSU for which course would be run	10	30	40

Estimated full-time and part-time Students	2009	2010	2011
Estimated number of Full-time students	25	45	65
Estimated number of Part-time students	5	10	15

Impact on students currently enrolled: The proposed course is designed to support the transfer of existing Master of Engineering or ME students into the Master of Professional Engineering. Please note that the specialised UOS for engineering are drawn from the current Master of Engineering specialisations. Therefore, currently enrolled ME students may transfer their credits earned during their ME to the new MPE degree. ME students would be required to complete an additional 48cp of professional engineering UOS and industry based project in order to complete the MPE. Furthermore,

students undertaking GradDip and GradCert in Engineering may also articulate to MPE program by moving their credit to the MPE program.

Enrolment Quotas:

Will quotas be set for the proposed award course or for any units of study within the award course? No

1.2.4 Consultation and external references

Consultees	Date of consultation	Method of consultation	Type of supporting evidence provided
Robin King - Carrick Institute and Australian Council of Engineering Deans	1-2 November 2007	Presentation at Faculty Forum	Carrick Report; Report from Faculty Forum http://info.eng.usyd.edu.au/ENG_GIT/Carrick%20Engineering%20Report-final-2.pdf
Academic Board Review	October 2007	Meetings and interviews	Report from the Academic Board Review of Faculty http://info.eng.usyd.edu.au/ENG_GIT/EIT_AB_REVIEW_3.pdf
Professor Ron Johnston – ASIIC	October – November 07	Meetings and discussions	Letter of support
Engineering Sydney Board	February – April 2008	Meetings	Minutes from meetings;
Dean’s Advisory Committee	November 07, April 2008	Meetings	Minutes from meetings
Engineers Australia	Ongoing	Advice	emails
Heads of School	February 08	Meeting	Minutes of meeting

1.2.5 Course structure

1.2.5.1

The program structure presented below should have 4 levels of units of study and progression rules for MPhil and PhD

Overseas Engineering Graduates		Engineering graduates moving into another area		Non-engineering graduates (Science graduates)	
Unit type	c.p value	Unit type	c.p value	Unit type	c.p value
Specialist	24	Specialist	36	Specialist UOS from the discipline area	48
Mandatory	24	Mandatory	24	Mandatory	24
Research or industry based project	24	Research or industry based project	24	Additional Specialist UOS from the Discipline area	12
Elective	24 with possible industry based project	Elective	12	Industry based project	12

Course Structure for Overseas Engineering Candidates:

Candidates with overseas engineering background would be required to follow the degree structure given below:

Specialist UOS from the discipline area: (these units would form the basis of specialisations or defined majors and open to MPE students only)	24cr
Mandatory UOS:	24cr
Research or Practice UOS	24cr
Electives/Industry Based Projects/Internships	24cr

Course Structure for Engineers moving into another area:

Candidates with engineering background and moving into another area of practice would be required to follow the degree structure given below:

Specialist UOS from the discipline area: (these units would form the basis of specialisations or defined majors and open to MPE students only)	36cr
Mandatory UOS:	24cr
Additional Specialist UOS from the Discipline area:	24cr
Professional Practice UOS or Industry based project:	12cr

Course structure for Science graduates:

Candidates with non engineering background would be required to follow the degree structure given below:

Specialist UOS from the discipline area: (Non engineering graduates would have to take 2nd, 3rd and 4th year UOS, classified as MPE Foundation UoS as a way to develop engineering foundations prior to taking specialist UOS from ME specialisations. The tutorial and assessment activities for these 2 nd , 3 rd and 4 th year UOS for MPE non engineering students would be different from the UG students and conducted at the postgrad level. These foundation units carry a prohibition and cannot be taken by candidates with a bachelors degree in Engineering).	48cr
Mandatory UOS:	24cr
Additional Specialist UOS from the Discipline area: (these units would form the basis of discipline area of specialisations and open to MPE students only)	12cr
Industry based project:	12cr

1.2.5.2 Overall common course structure

All students should follow (i), (ii), (iii), (iv) or (v).

- (i) **SU-Specialist level units of study** (these units would form the basis of specialisations or defined majors and open to MPE students only). The enrolment patterns may be as follows:

(i) Candidates with Science or other qualifications wanting to acquire engineering must complete 60cp of specialist UOS and would have to take a number of UOS from our existing BE;

(ii) Overseas Engineering students with technical skills wanting to practice locally and internationally (must complete 24cp from ME specialised UOS);

(iii) Engineers moving into another area from their initial area of specialisations (must complete 36cp specialist UOS)

- (ii) **MU-Mandatory units of study** (MPE)
- a. Professional engineering UOS (must take up to 24cp)
 - i. Data quality in engineering computing (6cp)

Offshore delivery

Please provide justification

1.2.5.4 Does the course involve clinical or industrial placement/experience?

Yes No

12cp industry based project, which would be conducted by working closely with industry partners so that students would have gained sufficient industry experiences.

1.2.5.5 Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

Our proposed new degree structure will be as follows:

1. Specialisations UOS (24cp minimum to a maximum of 60cp)
2. Mandatory UOS (up to 24cp recommended for Professional Engineering Degree)
3. Electives UOS (0-24cp max can be selected from ME/MIT/MITM/MPM electives)
4. Research Project/Professional Practice Project (12cp to 24cp)

Research Practice pathways:

Students may further undertake 24cp project within their area of specialisations as part of the Research Practice pathway.

Professional Practice Pathway:

Alternatively, students may decide to take 12cp engineering professional practice oriented UOS plus 12cp industry based project to complete their Master of Professional Engineering Degree.

The Faculty is committed to support the program and requested each school within the faculty to support the creation and delivery of the mandatory UOS. MPE UOS which deal with specialisations and electives are currently being offered by the schools for the Master of Engineering program. Existing staff will teach the UOS in their specific area of expertise. Engineering Sydney would be responsible for supporting the development of industry based projects leading to internships and placements for the MPE program. The Executive Director of Engineering Sydney has established a network of 70 engineering and IT based companies, which can be used as a foundation to support the industry based projects, internships and student placements.

The Graduate School of Engineering and IT would support the administration of student related services for MPE program.

1.2.6 Assessment procedures

Proposed assessment regime	Proportion of assessment regime (%)	Use of external assessors/examiners (Yes/No) (if yes, please provide details)
Formative assessment with feedback during tutorials	10%	
Formative assessment with feedback during industry based projects for Professional Practice Path or formative assessment for the research component assessed by internal and external examiners	40%	Yes. External examiners may be used when assessing the practical pathway project.
Summative assessment at the conclusion of each course	50%	

Please provide justification

1.2.7 Student workload

1.2.7.1

Expected workload	Total time expected (per credit point)
Lectures	2 hrs
Tutorials	1 hr
Practical experience	5hrs
Independent study	2hrs
Reading and work for assessment	1hr
Others (please specify):	

1.2.7.2 Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university

Similar to the work load of the ME and BE Honours year.

1.2.7.3 What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?

N/A

1.2.8 Attributes of graduates

Research and inquiry

Students will develop an appreciation of the role of an engineer in the professional world. They will gain an ability to apply and contextualise a deep understanding of a specific engineering discipline.

Information literacy

An ability to gather, manage, integrate and critique information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem. Possess a deep understanding and appreciation of engineering design and implementation.

Personal and intellectual autonomy

Graduates of the MPE will be able to work as strong team members, in a way that is informed by openness, curiosity and a desire to meet new challenges, in an engineering environment.

Ethical, social and professional understanding

Graduates will possess an ability to function in, and lead, a multi-disciplinary and multi-cultural team. They will have appreciation and ability to promote sustainable designs in engineering. Graduates will have the knowledge and capabilities to design and test engineering domains to meet all standards set by their relevant specialisation regulating bodies.

Communication

Graduates of the MPE will be able to effectively communicate ideas in engineering to a wide range of personnel, from managers to construction and plant personnel. They will have a strong ability to write professional reports and research articles.

1.2.9 Transitional arrangements (for continuing students)

Last year of student intake under existing Resolutions: Local students N/A
International students N/A

Provisions in place for students enrolled under existing Resolutions: Students currently enrolled in the ME may be eligible to transfer into the MPE in 2009.

1.2.10 Course administration

Course to be administered by the following Faculty: Faculty of Engineering and Information Technologies

1.2.10.1 Is there **shared teaching** with other Faculties?

Yes Please see below on provision of additional information.
 No

If yes,

Faculty	Percentage of EFTSU
Managing Faculty:	
Collaborating faculties:	
External partners:	

1.2.10.2 Basis for the above allocation between faculties:

1.2.10.3 Combined degree – inter-faculty arrangements:

1.2.10.4 Is the proposed award course part of a **con-joint venture** with another institution?

Yes No
 If yes, has the Director Student Centre been consulted?
 Yes No

1.2.11 Resolutions

1.2.11.1 Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the **University Calendar**?

Yes *If yes, please complete Appendix 2.*
 No

1.2.11.2 Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?

Yes *If yes, please complete Appendix 3.*
 No

1.2.11.3 Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?

Yes *If yes, please complete Appendix 4.*
 No

1.2.11.4 Will there be changes to the academic dress due to the introduction of the proposed new award course?

Yes No

1.2.12 Quality assurance arrangements and plans

Quality assurance measures are already in place in the ME, MIT, MITM, MPM and BE. The MPE specialist units of study are from the existing ME degree. The five mandatory prerequisite units of study are being written in consultation with industry and Engineers Australia.



Alternate Pathways to the MPE

International Bachelor of Engineering or equivalent
(4 years)
All streams

Bachelor of Engineering
(4 years)
International and local
All streams
Changing discipline

Bachelor of Science (3/4 years)
Bachelor of Science and Technology
Bachelor of Technology (3 years)
Adequate tertiary knowledge of mathematics and/or science

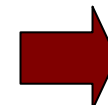
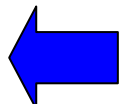
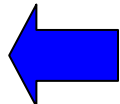
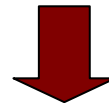
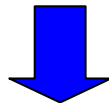
Bachelor of Arts and Liberal Studies
(3 years)
Adequate tertiary knowledge of mathematics and/or science

Bachelor of Commerce
(3 years)
Adequate tertiary knowledge of mathematics and/or science

Bachelor of Information Technology
(4 years)
Adequate tertiary knowledge of mathematics and/or science

Bachelor of Engineering
Accredited
(4 Years)

Streams available:
Aeronautical
Space streams
Mechanical
- Mechatronic
- Biomedical
Chemical & Biomolecular
Civil
- Construction
- Environmental
- Geotechnical
- Structural
- Project Engineering & Management
Electrical
- Power
Computer
Telecommunications
Software



Exit Point:
after 1 yr with
ME with
specialisation

Exit point: after
2 yrs and gain
employment as
a Professional
Engineer with a
specialisation

Master of Professional Engineering
Accredited
(2 years)

Specialise in: Aerospace, Automation & Manufacturing Systems, Environmental, Biophysical Processes, Sustainable Processing, Structures, Geotechnical, Environmental Fluids, Fluid & Wind, Network, Wireless, Power, Biomedical, Mechanical

Exit Point: gain
employment as
a Professional,
Aerospace,
Biomedical,
Civil, Chemical
Electrical or
Mechanical
Engineer

Exit point: gain
employment as
a Professional
Engineer

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

CIVIL Students with an overseas engineering qualification will follow this pathway				
	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 24 cp:				
A: Structures	CIVL5262	Structural Steel connections	6	core
Choose from:	CIVL5256	Concrete structures: serviceability	6	core
	CIVL5263	Stainless steel and aluminium structures	6	core
	CIVL5255	Concrete structures: durability	6	core
	CIVL5258	Advanced Structural Steel Design	6	Core
	CIVL5264	Composite Steel-Concrete Structures	6	Core
	CIVL5265	Advanced Structural Stability and Analysis	6	Core
	CIVL5257	Concrete Structures – Prestressed Concrete	6	Core
or				
B: Geotechnical	CIVL5452	Foundation Engineering	6	core
Choose from:	CIVL5457	Geotechnical Investigations	6	core
	CIVL5451	Numerical and Computer Methods	6	core
	CIVL5455	Engineering behaviour of soils	6	core
	CIVL5450	Analysis and design of pile foundations	6	core
	CIVL5351	Environmental geotechnics	6	Core
	CIVL5454	Rock Engineering	6	Core
	CIVL5456	Earth and Rockfill Dams	6	core
or				
C: Environmental Fluids	CIVL5656	Fluid Environment	6	core
	CIVL5665	Advanced Water resources management	6	core
	CIVL5664	Mixing in the Marine environment	6	core
	ENGG5601	Greenhouse Gas Mitigation	6	core
or				
D: Fluid and Wind	CIVL5663	Wind tunnel test techniques	6	core
Choose from:	CIVL5656	Fluid environment	6	core
	CIVL5660	Sustainable ocean energy resources	6	core
	CIVL5657	Advanced coastal engineering	6	core
	CIVL5662	Bluff body aerodynamics	6	Core
	CIVL5658	Advanced environmental fluids	6	Core
	CIVL5661	Wind structure and meteorology	6	Core
	CIVL5659	Environmental Fluid Mechanics	6	Core
*Research 24 cp:	ENGG5218	Research Dissertation	24	core
*students taking this pathway must also have completed ENGG5210				
or				
Professional Practice 24	ENGG5214	Management of technology	6	elective

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

cp:				
choose from 12cp:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industrial Project	12	core
Elective units totalling 24 cp		Electives may be taken from UoS listed in the tables in the Faculty of Engineering and IT Postgraduate Handbook or, with special permission, from postgraduate units in Economics and Business, Grad School of Govt and Health Sciences.	24	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with a degree in **Engineering wishing to change engineering** paths with follow this pathway **FOR CIVIL**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist foundation units totalling 24 cp:				
choose from:	CIVL5501	Materials	6	core
	CIVL5502	Structural Mechanics	6	core
	CIVL5509	Intro to Struct Concepts and Design	6	core
	CIVL5504	Soil Mechanics	6	core
	CIVL5505	Fluid Mechanics and Inviscid Flow	6	core
	CIVL5506	Eng Construction and Surveying	6	core
	CIVL5507	Concrete Structures 1	6	core
	CIVL5510	Civil Engineering Design	6	core
	CIVL5508	Steel Structures 1	6	core
Specialist units totaling 24 cp:				
A: Structures	CIVL5262	Structural Steel connections	6	core
Choose from:	CIVL5256	Concrete structures: serviceability	6	core
	CIVL5263	Stainless steel and aluminium structures	6	core
	CIVL5255	Concrete structures: durability	6	core
	CIVL5258	Advanced Structural Steel Design	6	Core
	CIVL5264	Composite Steel-Concrete Structures	6	Core
	CIVL5265	Advanced Structural Stability and Analysis	6	Core
	CIVL5257	Concrete Structures – Prestressed Concrete	6	Core
or				
B: Geotechnical	CIVL5452	Foundation Engineering	6	core
Choose from:	CIVL5457	Geotechnical Investigations	6	core
	CIVL5451	Numerical and Computer Methods	6	core
	CIVL5455	Engineering behaviour of soils	6	core
	CIVL5450	Analysis and design of pile foundations	6	core
	CIVL5351	Environmental geotechnics	6	Core
	CIVL5454	Rock Engineering	6	Core
	CIVL5456	Earth and Rockfill Dams	6	core
or				
C: Environmental Fluids	CIVL5656	Fluid Environment	6	core
	CIVL5665	Advanced Water resources management	6	core
	CIVL5664	Mixing in the Marine environment	6	core
	ENGG5601	Greenhouse Gas Mitigation	6	core
or				
D: Fluid and Wind	CIVL5663	Wind tunnel test techniques	6	core
Choose from:	CIVL5656	Fluid environment	6	core
	CIVL5660	Sustainable ocean energy resources	6	core

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

	CIVL5657	Advanced coastal engineering	6	core
	CIVL5662	Bluff body aerodynamics	6	Core
	CIVL5658	Advanced environmental fluids	6	Core
	CIVL5661	Wind structure and meteorology	6	Core
	CIVL5659	Environmental Fluid Mechanics	6	Core
	CIVL5657	Advanced coastal engineering	6	core
*Research 24 cp:	ENGG5218	Research Dissertation	24	core
*students taking this pathway must also have completed ENGG5210				
or				
Professional Practice 24 cp:	ENGG5214	Management of technology	6	elective
choose from:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industrial Project	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with a **non-engineering** background will follow this pathway **FOR CIVIL**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 48 cp:	CIVL5501	Materials	6	core
choose from:	CIVL5502	Structural Mechanics	6	core
	CIVL5509	Intro to Struct Concepts and Design	6	core
	CIVL5504	Soil Mechanics	6	core
	CIVL5505	Fluid Mechanics and Inviscid Flow	6	core
	CIVL5506	Eng Construction and Surveying	6	core
	CIVL5507	Concrete Structures 1	6	core
	CIVL5510	Civil Engineering Design	6	core
	CIVL5508	Steel Structures 1	6	core
Specialist units totalling 12 cp:	CIVL5262	Structural Steel connections	6	elective
choose from:	CIVL5256	Concrete structures: serviceability	6	elective
	CIVL5263	Stainless steel and aluminium structures	6	elective
	CIVL5255	Concrete structures: durability	6	elective
	CIVL5452	Foundation Engineering	6	elective
	CIVL5457	Geotechnical Investigations	6	elective
	CIVI5451	Numerical and Computer Methods	6	elective
	CIVL5455	Engineering behaviour of soils	6	elective
	CIVL5656	Fluid Environment	6	elective
	CIVL5665	Advanced Water resources management	6	elective
	CIVL5664	Mixing in the Marine environment	6	elective
	ENGG5601	Greenhouse Gas Mitigation	6	elective
	CIVL5663	Wind tunnel test techniques	6	elective
	CIVL5656	Fluid environment	6	elective
	CIVL5660	Sustainable ocean energy resources	6	elective
	CIVL5657	Advanced coastal engineering	6	elective
Industry based project 12 cp:	ENGG5217	Industrial Project	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

CHEMICAL Students with an **overseas engineering** qualification will follow this pathway

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 24 cp:	CHNG5601	membrane science	6	core
choose from:	CHNG5604	Membrane Science Laboratory	6	core
	CHNG5602	Cellular Biophysics	6	core
	CHNG5902	Bio-Product Laboratory to Marketplace	6	core
	CHNG5603	Analysis, Modelling, Control of Biophysical Systems	6	core
	CHNG5002	Environmental Decision Making	6	core
	CHNG5003	Green Engineering	6	core
	CIVL5656	The fluid Environment	6	core
	CIVL5664	Mixing in the Marine Environment	6	core
	CIVL5665	Advanced Water resources Management	6	core
	CHNG5004	Particle and Surfaces	6	core
Research 24 cp:	ENGG5218	Research Dissertation	24	core
or				
Professional Practice 24 cp:	ENGG5214	Management of technology	6	elective
choose from:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industrial Project	12	core
Elective units totalling 24 cp		Electives may be taken from UoS listed in the tables in the Faculty of Engineering and IT Postgraduate Handbook or, with special permission, from postgraduate units in Economics and Business, Grad School of Govt and Health Sciences.	24	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with a degree in ***Engineering wishing to change engineering paths** with follow this pathway **FOR CHEMICAL**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 36 cp:	CHNG5706	Foundations of Process Design	6	core
choose from:	CHNG5707	Foundations of Operating and Improving Industrial Systems	6	core
	CHNG5708	Foundations of Chemical and Biological Process Design	6	core
	CHNG5710	Foundations of Product Formulation and Design	6	core
	CHNG5711	Foundations of Management of Industrial Systems	6	core
	CHNG5709	Foundations of Biochemical Engineering	6	core
	CHNG5601	membrane science	6	core
	CHNG5604	Membrane Science Laboratory	6	core
	CHNG5602	Cellular Biophysics	6	core
	CHNG5902	Bio-Product Laboratory to Marketplace	6	core
	CHNG5603	Analysis, Modelling, Control of Biophysical Systems	6	core
	CHNG5002	Environmental Decision Making	6	core
	CHNG5003	Green Engineering	6	core
	CIVL5656	The fluid Environment	6	core
	CIVL5664	Mixing in the Marine Environment	6	core
	CIVL5665	Advanced Water resources Management	6	core
	CHNG5004	Particle and Surfaces	6	core
Research 24 cp:	ENGG5218	Research Dissertation	24	core
or				
Professional Practice 24 cp:	ENGG5214	Management of technology	6	elective
choose from:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industry project	12	core
Elective units totalling 12 cp		Electives may be taken from UoS listed in the tables in the Faculty of Engineering and IT Postgraduate Handbook or, with special permission, from postgraduate units in Economics and Business, Grad School of Govt and Health Sciences.	12	elective
		To total credit points	96	

*Candidates must provide proof of knowledge of mass and energy balances or complete an intensive-mode UOS (non-award) before commencing this pathway.

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Graduates with a ***non-engineering** background will follow this pathway **FOR CHEMICAL**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 48 cp:	CHNG5701	Foundations of Conservation and Transport Processes	6	core
choose from:	CHNG5702	Foundations of Applied Mathematics for Chemical Engineers	6	core
	CHNG5703	Foundations of Energy and Fluid Systems	6	core
	CHNG5704	Foundations of Chemical and Biological Systems Behaviour	6	core
	CHNG5705	Foundations of Industrial Systems and Sustainability	6	core
	CHNG5706	Foundations of Process Design	6	core
	CHNG5707	Foundations of Operating and Improving Industrial Systems	6	core
	CHNG5708	Foundations of Chemical and Biological Process Design	6	core
	CHNG5710	Foundations of Product Formulation and Design	6	core
	CHNG5711	Foundations of Management of Industrial Systems	6	core
	CHNG5709	Foundations of Biochemical Engineering	6	core
Specialist units totalling 12 cp:	CHNG5601	membrane science	6	elective
choose from:	CHNG5604	Membrane Science Laboratory	6	elective
	CHNG5602	Cellular Biophysics	6	elective
	CHNG5902	Bio-Product Laboratory to Marketplace	6	elective
	CHNG5603	Analysis, Modelling, Control of Biophysical Systems	6	elective
	CHNG5002	Environmental Decision Making	6	elective
	CHNG5003	Green Engineering	6	elective
	CIVL5656	The fluid Environment	6	elective
	CIVL5664	Mixing in the Marine Environment	6	elective
	CIVL5665	Advanced Water resources Management	6	elective
	CHNG5004	Particle and Surfaces	6	elective
Industry based project 12 cp:	ENGG5217	Industrial project	12	core
		To total credit points	96	

*Candidates must provide proof of knowledge of mass and energy balances or complete an intensive-mode UOS (non-award) before commencing this pathway.

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Aerospace Students with an **overseas engineering** qualification will follow this pathway

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp additional from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
	ENGG5215	International engineering strategies and operations	6	core
	ENGG5214	Management of technology		
Mandatory Specialist units totalling 48cp:	AMME5601	AMME Professional Engineering	6	core
	AERO5660	Aviation Risk Assessment	6	core
	AMME5100	Industrial Placement (exempt if suitable placement IN ENGINEERING QUALIFICATION)	0	core
	AMME5202	Advanced Computational Fluid Dynamics	6	core
	AERO5301	Applied Finite Element Analysis	6	core
	AERO5200	Advanced Aerodynamics	6	core
	AERO5400	Advanced Aircraft Design and Analysis	6	core
	AERO5500	Flight Mechanics Test and Evaluation Adv	6	core
	MECH5310	Advanced Engineering Materials	6	core
Research 24 cp:	AMME5218	Research Dissertation	24	core
or				
	AERO5901	Project and Seminar 1 in Aerospace Engg	12	core
	AERO5902	Project and Seminar 2 in Aerospace Engg To total credit points	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Aerospace students with a degree in **Engineering wishing to change engineering** paths with follow this pathway:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice units totalling 12cp:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
Choose 12cp from:	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
	ENGG5215	International engineering strategies and operations	6	core
	ENGG5214	Management of technology	6	core
Mandatory Specialist units totalling 48cp:	AMME5601	AMME Professional Engineering	6	core
	AERO5660	Aviation Risk Assessment	6	core
	AMME5100	Industrial Placement (exempt if suitable placement done	0	core
		IN ENGINEERING QUALIFICATION)		
	AMME5202	Advanced Computational Fluid Dynamics	6	core
	AERO5301	Applied Finite Element Analysis	6	core
	AERO5200	Advanced Aerodynamics	6	core
	AERO5400	Advanced Aircraft Design and Analysis	6	core
	AERO5500	Flight Mechanics Test and Evaluation Adv	6	core
	MECH5310	Advanced Engineering Materials	6	core
Research 24 cp:	AMME5218	Research Dissertation	24	core
or				
	AERO5901	Project and Seminar 1 in Aerospace Engg	12	core
	AERO5902	Project and Seminar 2 in Aerospace Engg To total credit points	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Aerospace Students with a **non-engineering** background will follow this pathway:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 12cp:	ENGG5202	Sustainable design, engineering and management	6	core
Choose from:	ENGG5204	Engineering Professional Practice	6	core
	ENGG5203	Quality engineering and management	6	core
	ENGG5201	Data quality in engineering computing	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5214	Management of technology	6	core
	ENGG5215	International engineering strategies and operations	6	core
Mandatory specialist units totalling 24 cp:	AMME5601	AMME Professional Engineering	6	core
	AERO5660	Aviation Risk Assessment	6	core
	AERO5901	Project and Seminar 1 in Aerospace Engg.	12	core
	AERO5902	Project and Seminar 2 in Aerospace Engg.	12	core
	AMME5100	Industrial Placement	0	core
Additional Mandatory Specialist units totalling 48 cp:	AMME5301	Mechanics of Solids 1	6	core
	AMME5500	Engineering Dynamics	6	core
	AMME5302	Materials 1	6	core
	AERO5210	Aerodynamics	6	core
	AERO5310	Aerospace Structures	6	core
	AERO5410	Aerospace Design	6	core
	AERO5510	Flight Mechanics	6	core
	AERO5211	Propulsion Systems	6	core
Specialist units totalling 12 cp:	AMME5202	Advanced Computational Fluid Dynamics	6	elective
choose from:	AERO5301	Applied Finite Element Analysis	6	elective
	AERO5200	Advanced Aerodynamics	6	elective
	AERO5400	Advanced Aircraft Design and Analysis	6	elective
	AERO5500	Flight Mechanics Test and Evaluation Adv	6	elective
	MECH5310	Advanced Engineering Materials	6	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Mechanical Students with an overseas engineering qualification will follow this pathway

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 24 cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5214	Management of technology	6	core
	ENGG5215	International engineering strategies and operations	6	core
Mandatory specialist units totalling 12cp	AMME5601	AMME Professional Engineering	6	core
	AERO5660	Aviation Risk Assessment	6	core
	AMME5100	Industrial Placement (exempt if suitable placement done in engineering qualification)	0	core
Specialist units totalling 36 cp:	AMME5202	Advanced Computational Fluid Dynamics	6	elective
	AERO5301	Applied Finite Element Analysis	6	elective
	MECH5305	Smart Materials	6	elective
	AMME5602	Advanced Product Life Cycle Design	6	elective
	MECH5310	Advanced Engineering Materials	6	elective
	MECH5255	Air Conditioning and Refrigeration	6	elective
	MECH5275	Advanced Renewable Energy	6	elective
	MECH5265	Advanced Combustion	6	elective
	AMME5271	Computational nanotechnology	6	elective
Research 24 cp:	AMME5218	Research Dissertation	24	core
or	AERO5901	Project and Seminar 1 in Aerospace Engg	12	core
and	AERO5902	Project and Seminar 2 in Aerospace Engg	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with an **engineering qualification wishing to change engineering paths** will follow this pathway for **Mechanical**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 24 cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5214	Management of technology	6	core
	ENGG5215	International engineering strategies and operations	6	core
Mandatory specialist units totalling 12cp	AMME5601	AMME Professional Engineering	6	core
	AERO5660	Aviation Risk Assessment	6	core
	AMME5100	Industrial Placement (exempt if suitable placement done in engineering qualification)	0	core
Specialist units totalling 36 cp:	AMME5202	Advanced Computational Fluid Dynamics	6	elective
Choose from:	AERO5301	Applied Finite Element Analysis	6	elective
	MECH5305	Smart Materials	6	elective
	AMME5602	Advanced Product Life Cycle Design	6	elective
	MECH5310	Advanced Engineering Materials	6	elective
	MECH5255	Air Conditioning and Refrigeration	6	elective
	MECH5275	Advanced Renewable Energy	6	elective
	MECH5265	Advanced Combustion	6	elective
	AMME5271	Computational nanotechnology	6	elective
Research 24 cp:	AMME5218	Research Dissertation	24	core
or				
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Mechanical students with **non-engineering** qualifications follow this pathway:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 12 cp choose from:	ENGG5201	Data quality in engineering computing	6	core
	ENGG5202	Sustainable design, engineering and management	6	core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5214	Management of technology	6	core
	ENGG5215	International engineering strategies and operations	6	core
Mandatory specialist units totalling 24 cp:	AMME5601	AMME Professional Engineering	6	Mandatory core
	AERO5660	Aviation Risk Assessment	6	Mandatory core
	MECH5900	Thesis (sem 1)	12	core
or	MECH5901	Thesis (sem 2)	12	core
or	AMME5101	Project	12	core
	AMME5100	Industrial Placement	0	Mandatory core
Specialist units totalling 48 cp: choose from:	AMME5301	Mechanics of Solids 1	6	core
	AMME5500	Engineering Dynamics	6	core
	AMME5200	Thermodynamics and Fluids	6	core
	AMME5302	Materials 1	6	core
	MECH5400	Mechanical Design 1	6	core
	MECH5361	Mechanics of Solids 2	6	core
	MECH5261	Fluid Mechanics	6	core
	AMME5500	System Dynamics and Control	6	core
	MECH5260	Thermal Engineering	6	core
	MECH5362	Materials 2	6	core
	MECH5660	Manufacturing Engineering	6	core
Specialist units totalling 12 cp: choose from:	AMME5202	Advanced Computational Fluid Dynamics	6	elective
	MECH5701	Computers in Real Time Control and Instrumentation	6	elective
	AERO5301	Applied Finite Element Analysis	6	elective
	MECH 5305	Smart Materials	6	elective
	AMME5602	Advanced Product Life Cycle Design	6	elective
	MECH5310	Advanced Engineering Materials	6	elective
	MECH5255	Air Conditioning and Refrigeration	6	elective
	MECH5275	Advanced Renewable Energy	6	elective
	MECH5265	Advanced Combustion	6	elective
	AMME5271	Computational nanotechnology	6	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

EIE Students with an overseas engineering qualification will follow this pathway				
	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 24cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units totalling 24 cp:	ELEC5204	Power Systems	6	core
choose from:	ELEC5205	High Voltage Engineering	6	core
	ELEC5101	Antennas and Propagation	6	core
	ELEC5508	Wireless Engineering	6	core
	ELEC5509	Mobile Networks	6	core
	ELEC5511	Optical Communication Systems	6	core
	ELEC5512	Optical Networks	6	core
	ELEC5203	Topics in Power Engineering	6	Core
	ELEC5303	Computer Control System Design	6	Core
	ELEC5402	Digital Integrated Circuit Design	6	Core
	ELEC5403	Radio Frequency Engineering	6	Core
	ELEC5507	Error Control Coding	6	Core
	ELEC5510	Satellite Communications Systems	6	Core
	ELEC5514	Network Embedded Systems	6	Core
	ELEC5614	Real Time Computing	6	Core
	ELEC5616	Computer and Network Security	6	Core
	ELEC5618	Software Quality Engineering	6	Core
	ELEC5619	Object Oriented Application Frameworks	6	Core
Research 24 cp:	ENGG5218	Research Dissertation	24	core
or				
Professional Practice 24 cp:	ENGG5214	Management of technology	6	elective
choose from 12cp:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industrial project	12	core
Elective units totalling 24 cp		Electives may be taken from UoS listed in the tables in the Faculty of Engineering and IT Postgraduate Handbook or, with special permission, from postgraduate units in Economics and Business, Grad School of Govt and Health Sciences.	24	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with a degree in **Engineering wishing to change engineering** paths with follow this pathway **FOR EIE**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 24cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units up to 12 cp:	ELEC5XXX	Digital Signal Processing	6	core
choose from:	ELEC5XXX	Communications Electronics and Photonics	6	core
	ELEC5XXX	Communications	6	core
	ELEC5XXX	Data Communications and the Internet	6	core
	ELEC5XXX	Engineering Electromagnetics		
	ELEC5XXX	Control		
	ELEC5XXX	Electronic Circuit Design		
	ELEC5XXX	Embedded Computing		
	ELEC5XXX	Power Electronics and Drives		
	ELEC5XXX	Electrical Energy Conversion Systems		
	ELEC5XXX	Electricity Networks		
Specialist units at least 24 cp:	ELEC5204	Power Systems		
choose from:	ELEC5205	High Voltage Engineering		
	ELEC5101	Antennas and Propagation		
	ELEC5508	Wireless Engineering		
	ELEC5509	Mobile Networks		
	ELEC5512	Optical Networks		
	ELEC5511	Optical Communication Systems		
	ELEC5203	Topics in Power Engineering		
	ELEC5303	Computer Control System Design		
	ELEC5402	Digital Integrated Circuit Design		
	ELEC5403	Radio Frequency Engineering		
	ELEC5507	Error Control Coding		
	ELEC5510	Satellite Communications Systems		
	ELEC5514	Network Embedded Systems		
	ELEC5614	Real Time Computing	6	core
	ELEC5616	Computer and Network Security	6	core
	ELEC5618	Software Quality Engineering		
	ELEC5619	Object Oriented Application Frameworks		
Research 24 cp:	ENGG5218	Research Dissertation	24	core
or				
Professional Practice 24 cp:	ENGG5214	Management of technology	6	elective
choose from 12cp:	ENGG5215	International engineering strategies and operations	6	elective
	ENGG5216	Management of engineering innovation	6	elective
plus	ENGG5217	Industrial Project	12	core

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

		Electives may be taken from UoS listed in the tables in the Faculty of Engineering and IT Postgraduate Handbook or, with special permission, from postgraduate units in Economics and Business, Grad School of Govt and Health Sciences.		
Elective units totalling 12 cp			12	elective
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Graduates with a **non-engineering** background will follow this pathway **FOR EIE**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory units totalling 24cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5210	Introduction to research methods in engineering	6	core
Specialist units up to 42 cp:	ELEC5XXX	Electronic Devices and Basic Circuits	6	core
Choose from:	ELEC5XXX	Signals and Systems	6	core
	ELEC5XXX	Digital System Design	6	core
	ELEC5XXX	Circuit Theory and Design	6	core
	ELEC5XXX	Digital Signal Processing	6	core
	ELEC5XXX	Communications Electronics and Photonics	6	core
	ELEC5XXX	Communications	6	core
	ELEC5XXX	Data Communications and the Internet	6	core
	ELEC5XXX	Engineering Electromagnetics	6	core
	ELEC5XXX	Control	6	core
	ELEC5XXX	Electronic Circuit Design	6	core
	ELEC5XXX	Power Transmission Systems	6	core
	ELEC5XXX	Power Electronics and Drives	6	core
	ELEC5XXX	Electrical Energy Conversion Systems	6	core
	ELEC5XXX	Electricity Networks	6	core
	ELEC5XXX	Embedded Computing	6	core
	ELEC5XXX	Internet Software Platforms	6	core
	ELEC5XXX	E-Business Analysis and Design	6	core
	ELEC5XXX	Digital Communication Systems	6	core
	ELEC5XXX	Computer Architecture	6	core
Specialist units at least 18 cp:	ELEC5204	Power Systems	6	core
choose from:	ELEC5205	High Voltage Engineering	6	core
	ELEC5101	Antennas and Propagation	6	core
	ELEC5508	Wireless Engineering	6	core
	ELEC5509	Mobile Networks	6	core
	ELEC5511	Optical Communication Systems	6	core
	ELEC5512	Optical Networks	6	core
	ELEC5203	Topics in Power Engineering	6	core
	ELEC5303	Computer Control System Design	6	core
	ELEC5402	Digital Integrated Circuit Design	6	core
	ELEC5403	Radio Frequency Engineering	6	core
	ELEC5507	Error Control Coding	6	core
	ELEC5510	Satellite Communications Systems	6	core
	ELEC5514	Network Embedded Systems	6	core
	ELEC5614	Real Time Computing	6	core
	ELEC5616	Computer and Network Security	6	core
	ELEC5618	Software Quality Engineering	6	core

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

	ELEC5619	Object Oriented Application Frameworks	6	core
Industry based project 12 cp:	ENGG5217	Industry project	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with an **overseas engineering** background will follow this pathway **For Biomedical Engineering**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 12 cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	Mandatory core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	Mandatory core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5215	International engineering strategies and operations	6	core
	ENGG5214	Management of technology	6	core
Mandatory Specialist units Totalling 48cp	AERO5660	Risk Assessment and Management	6	Mandatory core
	AMME5601	AMME Professional Engineering	6	Mandatory core
	AMME5901	Anatomy & Physiology for Engineers	6	Mandatory core
	AMME5100*	Industrial Placement	0	Mandatory core
	AMME5981	Computational Biomedical Engineering	6	core
	AMME5990	Biomedical Engineering Technology 1	6	core
	AMME5921	Biomedical Engineering Technology 2	6	core
	AMME5971	Applied Tissue Engineering	6	core
	AMME5961	Biomaterials Engineering	6	core
Engineering Electives 12cp	AMME5301	Mechanics of Solids 1	6	core
Choose from:	AMME5500	Engineering Dynamics	6	Core
	AMME5200	Thermofluids	6	Core
	AMME5302	Materials 1	6	Core
	MECH5400	Mechanical Design 1	6	Core
	AMME5271	Computational nanotechnology	6	core
Research 24 cp:	AMME5218	Research Dissertation	24	core
or	AERO5901	Project and Seminar 1 in Aerospace Engg	12	core
And	AERO5902	Project and Seminar 2 in Aerospace Engg	12	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with an **engineering degree wishing to change fields** will follow this pathway **For Biomedical Engineering**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 12 cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5215	International engineering strategies and operations	6	core
	ENGG5214	Management of technology	6	core
Mandatory Specialist units Totaling 48cp	AERO5660	Risk Assessment and Management	6	core
	AMME5601	AMME Professional Engineering	6	core
	AMME5901	Anatomy & Physiology for Engineers	6	core
	AMME5100*	Industrial Placement	0	core
	AMME5981	Computational Biomedical Engineering	6	core
	AMME5990	Biomedical Engineering Technology 1	6	core
	AMME5921	Biomedical Engineering Technology 2	6	core
	AMME5971	Applied Tissue Engineering	6	core
	AMME5961	Biomaterials Engineering	6	core
Engineering Electives 12cp	AMME5301	Mechanics of Solids 1	6	elective
Choose from:	AMME5500	Engineering Dynamics	6	elective
	AMME5200	Thermofluids	6	elective
	AMME5302	Materials 1	6	elective
	MECH5400	Mechanical Design 1	6	elective
	AMME5271	Computational nanotechnology	6	elective
Research 24 cp:	AMME5218	Research Dissertation	24	core
		To total credit points	96	

Unit of Study Pathways for the Master of Professional Engineering streams and specialisations.

Students with a **non-engineering** background will follow this pathway **For Biomedical Engineering**:

	UoS	UoS Name	c.p. value	core/elect
Mandatory Professional Practice 12 cp:	ENGG5201	Data quality in engineering computing	6	core
choose from:	ENGG5202	Sustainable design, engineering and management	6	core
	ENGG5203	Quality engineering and management	6	core
	ENGG5204	Engineering Professional Practice	6	core
	ENGG5205	Professional Practice in Project management	6	core
	ENGG5215	International engineering strategies and operations	6	core
	ENGG5214	Management of technology	6	core
Mandatory specialist units totalling 30cp	AERO5660	Risk Assessment and Management	6	Mandatory core
	AMME5601	AMME Professional Engineering	6	Mandatory core
	AMME5901	Anatomy & Physiology for Engineers	6	Mandatory core
	AMME5100	Industrial Placement	0	Mandatory core
	AMME5981	Computational Biomedical Engineering	6	core
	AMME5990	Biomedical Engineering Technology 1	6	core
	AMME5921	Biomedical Engineering Technology 2	6	core
	AMME5971	Applied Tissue Engineering	6	core
	AMME5961	Biomaterials Engineering	6	core
	MECH5900	Thesis Semester 1	12	core
or	MECH5901	Thesis Semester 2	12	core
Or	AMME5101	Project/Thesis	12	core
Engineering Electives 24cp	AMME5301	Mechanics of Solids 1	6	core
Choose from:	AMME5500	Engineering Dynamics	6	Core
	AMME5200	Thermofluids	6	Core
	AMME5302	Materials 1	6	Core
	MECH5400	Mechanical Design 1	6	Core
	AMME5271	Computational nanotechnology	6	Mandatory core
		To total credit points	96	

Notes:

- 1) Students must indicate in their application which stream or specialisation they intend to pursue.
- 2) The GSEIT will decide in consultation with the schools, on the admission of students to MPE, which stream or specialisation the candidate is most suited, to taking into account their academic background.
- 3) Students who wish to specialise will need to consult with the Director of Postgraduate Coursework Studies (or nominee) in the nominated School regarding the recommended UOS.

APPROVALS



Nominated Faculty Officer



Dean of Faculty (or Delegate)

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: RESOURCE IMPLICATIONS

1.3.1 Estimated Student Numbers for next three years of the award course

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	30	75	120
Estimated EFTSU	25	70	110

1.3.2 Availability of teaching and support staff

1.3.2.1 Availability of academic and support staff to deliver the proposed award course: Since most of the UOS are already in place, availability will be as per the existing degrees.

1.3.2.2 Strengths of the department/school/faculty:
Each School within the Faculty of Engineering and IT employs staff who are national and international leaders in their respective domains. The Faculty as a whole has the reputation of being world leaders in many areas of research and innovation.

1.3.3 Availability of teaching space, and other required facilities

1.3.3.1 Teaching rooms: Already in place

1.3.3.2 Lecture theatres: Already in place

1.3.3.3 Laboratories (including computer access labs): Already in place

1.3.3.4 Staff offices: Already in place

1.3.3.5 Storage or other space required including any which needs to be rented externally: Already in place

1.3.4 Availability of Library Resources

Concerns about library holdings that need to be addressed: Library holdings are adequate for those units of study which are in place. Arrangements will be made to formally request further material which may be recommended by the new units of study.

1.3.5 Availability of IT and other Equipment

1.3.5.1 Computer Technology: Already available

1.3.5.2 Other Equipment: Already available

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:
standard non-standard teaching
(e.g. Summer School, Winter School)

APPROVALS

A handwritten signature in black ink that reads "A. Thomas". The signature is written in a cursive style with a long, sweeping horizontal line above the name.

Nominated Faculty Officer

A handwritten signature in black ink that reads "Gregory Hancock". The signature is written in a cursive style with a long, sweeping horizontal line above the name.

Dean of Faculty (or Delegate)

Resolutions of the Senate

SECTION 1 – APPENDIX 2: RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to Degrees, Diplomas and Certificates in the Faculty of Engineering and Information Technologies (p 127, *Faculty of Engineering and Information Technologies Handbook 2008*) are amended, with effect from 1 January 2009, as follows (additions indicated by underline, deletions indicated by strikethrough):

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGIES

1. The postgraduate degrees in the Faculty of Engineering and Information Technologies shall be:

1.1 Master of Professional Engineering (MPE)

1.2 Master of Engineering (ME)

1.3 Master of Information Technology (MIT)

1.4 Master of Applied Information Technology (MApIT) (Not available to new students in 2009)

1.5 Master of Information Technology Management (MITM)

1.6 Master of Philosophy (MPhil)

1.7 Master of Project Management (MPM)

1.8 Doctor of Philosophy (PhD)

1.9 Doctor of Engineering (DEng)

1.10 Doctor of Engineering Practice (DEngPrac)

2. The diplomas in the Faculty of Engineering and Information Technologies shall be:

2.1 Graduate Diploma in Engineering (GradDipEng)

2.2 Graduate Diploma in Telecommunications (GradDipTelecomm)

2.3 Graduate Diploma in Power Engineering (GradDipPowEng)

2.4 Graduate Diploma in Computer Systems Engineering (GradDipCompSystEng)

2.5 Graduate Diploma in Environmental Engineering (GradDipEnvironEng)

2.6 Graduate Diploma in Project Management (GradDipPM)

2.7 Graduate Diploma in Structural Engineering (GradDipStructEng)

2.8 Graduate Diploma in Sustainable Processing (GradDipSustProc)

2.9 Graduate Diploma in Information Technologies (GradDipIT)

2.10 Graduate Diploma in Applied Information Technology (GradDipAppIT) (Not available to new students in 2009)

2.11 Graduate Diploma in Information Technology Management (GradDipITM)

2.12 Graduate Diploma in Computing (GradDipComp)

3. The certificates in the Faculty of Engineering and Information Technologies shall be:

3.1 Graduate Certificate in Engineering (GradCertEng)

3.2 Graduate Certificate in Project Management (GradCertPM)

3.3 Graduate Certificate in Greenhouse Gas Mitigation (GradCertGHGMit)

3.4 Graduate Certificate in Information Technologies (GradCertIT)

3.5 Graduate Certificate in Applied Information Technology (GradCertAppIT) (Not available to new students in 2009)

3.6 Graduate Certificate in Information Technology Management (GradCertITM)

SECTION 1 – APPENDIX 3: RESOLUTIONS OF THE SENATE (COURSEWORK AWARD COURSES)

Resolutions of the Senate (Coursework courses)

The Resolutions for all coursework degrees, diplomas and certificates must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and with the relevant Faculty Resolutions.

[Course title:] Master of Professional Engineering

1. Requirements for the Master of Professional Engineering

1.1 A candidate who has been admitted to the Master of Professional Engineering shall proceed:

1.1.1 by coursework and project, in accordance with the relevant sections of the Resolutions; or

1.2 A candidate proceeding by coursework and project shall:

1.2.1 **Candidates with science or other degrees** (non engineering background) must complete coursework prescribed by the Committee to a total value of 60 credit points specialist UOS from a specific discipline area and according to requirements prescribed in the Faculty Postgraduate Tables. For Master's degrees in a specific discipline area (i.e., Civil, Chemical, Mechanical and others), the prescribed core 48cp Units of Study of the specialisation and additional 12cp specialised UOS listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, and complete 12 credit points of industry based project.

1.2.2 **Candidates with overseas engineering degrees** must complete specialised units of study coursework prescribed by the Committee to a total value of 24 credit points and according to requirements prescribed in the Faculty Postgraduate Tables. For named Master's degrees, the prescribed core Units of Study of the specialisation listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, complete 24 credit points of research practice; or 12 credit points of professional engineering practice units of study and 12 credit points of industry project, and complete 24 credit points of electives.

1.2.3 **Candidates with engineering degrees and wanting to move into another area of engineering** practice must complete specialised units of study coursework prescribed by the Committee to a total value of 36 credit points and according to requirements prescribed in the Faculty Postgraduate Tables. For named Master's degrees, the prescribed core Units of Study of the specialisation listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, complete 24 credit points of research practice or 12 credit points of professional engineering practice units of study and 12 credit points of industry project, and complete 12 credit points of electives.

1.2.4 carry out under supervision a project in a field of study approved by the Committee and submit for examination a report on such a project;

1.2.5 lodge with the school/schools two bound copies (typewritten or printed) of the project report.

2. The degree of Master of Professional Engineering may be awarded in the following subject areas and the named testamurs for the degree shall specify the subject area: To qualify for one of these streams, students with an engineering background will have completed 24 cp of the specific subject area.

2.1 Aerospace Engineering

2.2 Automation and Manufacturing Systems

2.3 Environmental Engineering

2.4 Sustainable Processing

2.5 Biophysical Processes

2.6 Structural Engineering

2.7 Geotechnical Engineering

2.8 Fluid and Wind Engineering

2.9 Environmental Fluids

2.10 Wireless Engineering

2.11 Network Engineering

2.12 Power Engineering

2.13 Biomedical Engineering

2.14 Mechanical Engineering

3. Students coming into the programme from a non-engineering background may be awarded the degree of Master of Professional Engineering in the following subject areas and the named testamurs for the degree shall specify the subject area.

3.1 Aerospace Engineering

3.2 Biomedical Engineering

3.3 Chemical and Biomolecular Engineering

3.4 Civil Engineering

3.5 Electrical Engineering

3.6 Mechanical Engineering

SECTION 1 – APPENDIX 4: RESOLUTIONS OF THE FACULTY

The Resolutions for all coursework degrees, diplomas and certificates must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and with the relevant Faculty Resolutions.

[Course title:] Master of Professional Engineering

Resolutions of the Faculty Master of Professional Engineering (MPE) Admission requirements

Eligibility for Admission for Master of Professional Engineering:

Eligibility for admission for Overseas Engineering Graduates:

1. Except as provided in Part 9, the University of Sydney (Amendment Act) Rule 1999 of the By-laws, an applicant for admission to candidature for the degree of Master of Professional Engineering:

1.1 must have an undergraduate degree in Engineering with credit average from an institution which is acceptable to the University of Sydney admission; or

1.2.1 have completed courses acceptable to the Faculty of Engineering and Information Technologies.

1.3 be a graduate of another institution holding equivalent qualifications to those of a Bachelor of Engineering graduate of the University of Sydney.

1.4 An applicant for admission to candidature shall apply in writing to the Graduate School of Engineering and Information Technologies for such admission to candidature.

1.5 A candidate must study towards a similar specialisation to that awarded in their Bachelors degree.

Eligibility for admission for Engineering graduates moving into another Engineering area:

1. Except as provided in Part 9, the University of Sydney (Amendment Act) Rule 1999 of the By-laws, an applicant for admission to candidature for the degree of Master of Professional Engineering shall:

1.1 be a graduate of Engineering from the University of Sydney; and,

1.2.1 must have an undergraduate degree in Engineering with credit average from an institution which is acceptable to the University of Sydney admission; or

1.2.2 have completed courses acceptable to the Faculty of Engineering and Information Technologies.

1.3 be a graduate of another institution holding equivalent qualifications to those of a graduate of the University of Sydney.

1.4 An applicant for admission to candidature shall apply in writing to the Graduate School of Engineering and Information Technologies for such admission to candidature.

1.5 A candidate must study towards a different specialisation to that awarded in their Bachelors degree.

Eligibility for admission for Graduates from Science and other disciplines:

1. Except as provided in Part 9, the University of Sydney (Amendment Act) Rule 1999 of the By-laws, an applicant for admission to candidature for the degree of Master of Professional Engineering shall:

1.1 be a graduate of the University of Sydney with substantial tertiary knowledge in mathematics, and physics or chemistry or biology or geology or computing; and,

1.2.1 must have an undergraduate degree with a minimum of 24 credit points (or equivalent) of mathematics, and a major in physics, chemistry, biology, geology or economics and business with credit average from an institution which is acceptable to the University of Sydney admission.

1.2.2 Candidates undertaking additional studies to meet these entry requirements will not be credited for that study.

1.2.3 A candidate shall study towards an Engineering stream similar to their undergraduate area of specialisation.

1.2.3.1 A candidate entering the degree with the intention of studying towards the Civil Engineering specialisation must have completed in their Bachelor's degree: a minimum of 18cp of mathematics, plus 30cp of additional mathematics, geology, physics or computing (up to a maximum of 18cp in any one subject area).

1.2.3.2 A candidate entering the degree with the intention of studying towards the Chemical and Biomolecular Engineering specialisation must have completed in their Bachelor's degree: minimum of 12cp of chemistry or biochemistry ; a minimum of 18cp of mathematics and 12 cp of physics and computing.

1.2.3.3 A candidate entering the degree with the intention of studying towards the Electrical Engineering specialisation must have completed in their Bachelor's degree: a minimum of 18cp of mathematics; 12cp of computing or information technology; and 18cp of physics.

1.2.3.4 A candidate entering the degree with the intention of studying towards the Mechanical Engineering specialisation must have completed in their Bachelor's degree: 18cp of mathematics; 12cp of physics and 6 cp of computing.

1.2.3.5 A candidate entering the degree with the intention of studying towards the Biomedical Engineering specialisation must have completed in their Bachelor's degree: 6cp of junior Biology; 12cp of junior mathematics; and 6cp of either chemistry, physics or mathematics and 6cp of computing.

1.2.3.5 A candidate entering the degree with the intention of studying towards the Aerospace Engineering specialisation must have completed in their Bachelor's degree: 18 cp of mathematics, 24 cp of physics and 6cp of computing.

1.2.4 Candidates will have completed courses acceptable to the Faculty of Engineering and Information Technologies; or

1.3 be a graduate of another institution holding equivalent qualifications to those of a graduate of the University of Sydney.

1.4 An applicant for admission to candidature shall apply in writing to the Graduate School of Engineering and Information Technologies for such admission to candidature.

Probationary admission

2. A candidate shall:

2.1 if required by the Dean or his delegate of the Graduate School of Engineering and IT, produce evidence of such engineering experience as the Committee for Postgraduate Studies shall consider satisfactory;

2.2 engage in such study in engineering as the Committee shall prescribe for not less than two years of full-time candidature or three years of part-time candidature;

2.3 unless granted an extension by the Committee, complete the requirements for the degree within two years (full-time) or six years (part-time) of admission.

3 Credit transfer policy

3.1 Credit may be available for time spent or study done towards the Graduate Certificate of Engineering, the Graduate Diploma of Engineering, and the Master of Engineering subject to the approval of the Faculty and to the following guidelines:

3.1.1 If no award has been conferred for previous study, credit may be transferred in full to the Master of Professional Engineering.

3.1.2 If an award has been conferred for previous study, credit to a limit of 12 credit points may be transferred to the Master of Professional Engineering.

3.1.3 Where study has been undertaken at postgraduate level in an institution which is acceptable to the University of Sydney and no award has been granted, a maximum of 36 credit points may be transferred to the Master of Professional Engineering.

3.1.4 Credit may be transferred provided a credit average has been obtained and subject to the approval of the Faculty.

4. Satisfactory Progress

4.1 The Dean may advise a student when his or her performance has been such that a rule would normally be applied and call upon that student to show good cause why the rule should not be applied; and where the student does not show good cause, apply the rule.

4.2 A student who has failed a cumulative total of 12 credit points at any stage of enrolment in the Master of Professional Engineering will be required to show good cause why he or she should be allowed to re-enrol and,

4.2.1 if good cause has not been established by the candidate with an engineering bachelor's degree, the student's enrolment will be transferred to the Graduate Diploma in Engineering; or
4.2.2 if good cause has not been established by the candidate with a science or equivalent bachelors degree, the student may be excluded.

4.3 A student who has failed a cumulative total of 18 credit points at any stage of enrolment in the Master of Professional Engineering will be required to show good cause why he or she should be allowed to re-enrol and,

4.3.1 if good cause has not been established by the candidate with an engineering bachelor's degree, the student's enrolment will be transferred to the Graduate Certificate in Engineering; or

4.3.2 if good cause has not been established by the candidate with a science or equivalent bachelor's degree, the student may be excluded.

4.4 A student who has failed a cumulative total of more than 18 credit points in the Master of Professional Engineering will be required to show good cause why he or she should be allowed to re-enrol.

4.5 If good cause has not been established, the Dean may, in accordance with the in accordance with clause 16 of the *University of Sydney (Coursework) Rule 2000 (as amended)*:

4.5.1 exclude the student from the degree course; or

4.5.2 permit the student to re-enrol in the degree course subject to restrictions on units of study, which may include: completion of a unit or units of study within a specified time; exclusion from a unit or units of study; and specification of the earliest date on which a student may re-enrol in a unit or units of study.

4.5 Students deemed to be *at risk* of failing have failed to satisfactorily complete more than 50% of the credit points they are enrolled in for one semester or for a full year.

4.5.1 Students who have been identified as being *at risk* will:

4.5.1.1 be asked to consult an academic advisor; and

4.5.1.2 be asked to attend a Staying On Track Information Session.

4.5.1.3 A student may also be given a reduced enrolment load in the following semester with conditions applied, including passing all credit points enrolled in before being allowed to progress further with the degree.

5. Degree requirements

5.1 *Master of Professional Engineering*:

A candidate shall proceed—

5.1.1 by coursework and project, in accordance with sections 6 to 10;

6. A candidate proceeding by coursework and project shall:

6.1 **Candidates with science or other degrees** (non engineering background) must complete coursework prescribed by the Committee to a total value of 60 credit points specialist UOS from a specific discipline area and according to requirements prescribed in the Faculty Postgraduate Tables. For Master's degrees in a specific discipline area (i.e., Civil, Chemical, Mechanical and others), the prescribed core 48cp Units of Study of the specialisation and additional 12cp specialised UOS listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, and complete 12 credit points of industry based project.

6.2 **Candidates with overseas engineering degrees** must complete specialised units of study coursework prescribed by the Committee to a total value of 24 credit points and according to requirements prescribed in the Faculty Postgraduate Tables. For named Master's degrees, the prescribed core Units of Study of the specialisation listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, complete 24 credit points of research practice; or 12 credit points of professional engineering practice units of study and 12 credit points of industry experience and placement, and complete 24 credit points of electives.

6.3 **Candidates with engineering degrees and wanting to move into another area of engineering** practice must complete specialised units of study coursework prescribed by the Committee to a total value of 36 credit points and according to requirements prescribed in the Faculty Postgraduate Tables. For named Master's degrees, the prescribed core Units of Study of the specialisation listed in the Faculty Postgraduate Tables must be completed. In addition, candidates must complete mandatory units of study to a total value of 24 credit points coursework related to professional engineering practice, complete 24 credit points of research

- practice or 12 credit points of professional engineering practice units of study and 12 credit points of industry experience, and complete 12 credit points of electives.
- 6.4 Carry out under supervision a project in a field of study approved by the Committee and submit for examination a report on such a project;
- 6.5 lodge with the school/schools two bound copies (typewritten or printed) of the project report.
7. The Committee shall appoint a person who is a full-time member of the staff of the University to act as supervisor in respect of the candidate's project.
8. The school shall nominate at most two examiners of the project report for approval by the Committee.
9. The results of the coursework and the examiners' reports on the project report, together with a recommendation from the head of school, shall be considered by the Committee which shall determine the outcome of the candidature.
10. A candidate shall complete, to the satisfaction of the Committee, coursework prescribed by the Committee to a total value of 24 credit points to 48 credit points of specialist units of study and according to requirements prescribed in the the Faculty Postgraduate Tables. For named Master's degrees, the prescribed core Units of Study of the specialisation listed in the Faculty Postgraduate Tables must be completed. At least half of the Credit Points (i.e. 48 CPs) shall come from the area of the specialisation for candidates with non engineering degrees, at least 24 Credit Points shall come from the area of the specialisation for candidates with overseas engineering degrees and, at least at least 36 Credit Points shall come from the area of the specialisation for candidates with engineering degrees wanting to move into a different area of engineering practice.
11. Provided that at least half of the credit points required for any candidate shall be completed from among the postgraduate units of study offered within the Faculty of Engineering and IT, the Committee may permit any candidate to include within the prescribed coursework up to 12 credit points and a maximum of 2 units of study of approved postgraduate units of study from other faculties of the University of Sydney or other institutions.
12. The degree of Master of Professional Engineering for candidates with an engineering background may be awarded in the following subject areas and the testamur for the degree shall specify the subject area:
- 12.1 Aerospace Engineering
 - 12.2 Automation and Manufacturing Systems
 - 12.3 Environmental Engineering
 - 12.4 Sustainable Processing
 - 12.5 Biophysical Processes
 - 12.6 Structural Engineering
 - 12.7 Geotechnical Engineering
 - 12.8 Fluid and Wind Engineering
 - 12.9 Environmental Fluids
 - 12.10 Wireless Engineering
 - 12.11 Network Engineering
 - 12.12 Power Engineering
 - 12.13 Biomedical Engineering
 - 12.14 Mechanical Engineering
13. The degree of Master of Professional Engineering for candidates from non engineering background may be awarded in the following discipline area and the named testamurs for the degree shall specify the discipline area:
- 13.1 Civil Engineering
 - 13.2 Chemical and Biomolecular Engineering
 - 13.3 Mechanical Engineering
 - 13.4 Electrical Engineering
 - 13.5 Biomedical Engineering
 - 13.6 Aerospace Engineering
- 14. Degree progression**
- 14.1 Graduates with overseas Engineering degrees may discontinue the MPE after one year of full-time candidature and shall be awarded a Master of Engineering as described in the Faculty of Engineering and Information Technologies Resolutions pertaining to the awarding of the Master of Engineering.
- 14.2 Graduates with an Engineering degree moving into another area of expertise may discontinue the MPE after one year of full-time (or part-time equivalent) candidature and shall be

awarded a Master of Engineering as described in the Faculty of Engineering and Information Technologies Resolutions pertaining to the awarding of the Master of Engineering.

14.2.1 Foundation units of study will not be counted towards the awarding of the degree of ME.

14.3 Graduates with a Science or equivalent degree shall progress through the 96cp of the MPE.

14.3.1 Candidates following this pathway must complete the 96cp to be awarded a degree.

15 Time limits

15.1 A student shall, unless special permission is granted by the Faculty, complete the requirements of the degree, in the case of a full-time student not later than three years, and in the case of a part-time student not later than six years, after the commencement of candidature.

15.2 The Faculty may include in the minimum period of candidature time spent in advanced study and research in the University of Sydney Faculty of Engineering and Information Technologies (or any other institute as approved by the Faculty) prior to the application for admission to candidature.

16 Details of units of study

16.1 The units of study for the Master of Professional Engineering are listed in the Table for Master of Professional Engineering of the Faculty of Engineering and Information Technologies Handbook.

16.2 A candidate for the course shall proceed by completing units of study as prescribed by the Faculty.

16.3 A unit of study shall consist of such lectures, seminars, tutorial instructions, essays, exercises, practical work, or project work as may be prescribed.

16.4 All units of study for a particular subject area may not be available every semester.

16.5 The Dean may allow substitution of any unit of study by another unit of study, including units of study from other postgraduate coursework programs in the Faculty and elsewhere in the University.

17. Enrolment in more/less than minimum load

17.1.1 A candidate proceeding on a full-time basis may enrol in a maximum of 24 credit points per semester.

17.1.2 A candidate proceeding on a part-time basis may enrol in a minimum of 6 credit points to a maximum of 24 credit points per semester.

18. Cross-institutional study

18.1 Cross-institutional study shall not be available to students enrolled in the Master of Professional Engineering except where the University of Sydney has a formal cooperation agreement with another university.

19. Restrictions on enrolment

19.1 Admission to the Master of Professional Engineering may be limited by a quota.

19.2 In determining the quota, the University will take into account:

19.2.1 availability of resources including space, laboratory and computing facilities; and

19.2.2 availability of adequate and appropriate supervision.

19.3 In considering an application for admission to candidature the Dean shall take account of the quota and will select, in preference, applicants who are most meritorious in terms of subsection 2, above.

20. Discontinuation of enrolment [faculty procedures]

20.1 A student who does not enrol in any semester without first obtaining written permission from the Dean to suspend candidature will be deemed to have discontinued enrolment in the course.

20.2 Students who have discontinued from the course will be required to apply for admission to the course and be subject to admission requirements pertaining at that time.

21. Suspension of candidature [faculty procedures for readmission]

21.1 A student may seek written permission from the Dean to suspend candidature in the course.

21.2 Suspension may be granted for a maximum of two semesters.

22. Re-enrolment after an absence

22.1 A student who plans to re-enrol after a period of suspension must advise the Graduate School of Engineering and IT in writing of their intention by no later than the end of October for Semester One of the following year or the end of May for Semester Two of the same year.

23. Assessment policy

23.1 On completion of the requirements for the course, the Faculty shall determine the results of the candidature.



University of Sydney

LIBRARY IMPACT STATEMENT

Proposed Unit of Study: Master of Professional Engineering

I have examined the library needs related to the proposal and certify that existing library holdings, staffing, services and accommodation are, or will be, adequate to conjure the demands that are inherent in it.

Students will use resources and services of several of the University Libraries including the SciTech Library. To ensure that sufficient resources are available and current it will be necessary for the Faculty to work closely with the library to develop the collection.

We look forward to working with the students and staff to support this course and develop training and services appropriate to their needs and support the development of the graduate attributes discussed in the proposal.

If, in the future, new Units of Study are developed within this program, or the Faculty intends delivering the program or Units within the program in a different mode, it is understood that the library will be advised and will be asked to provide additional Library Impact Statements specific to the new Units.

A handwritten signature in black ink, reading 'Susan Hanfling'.

Susan Hanfling
Director, Library Services
for the University Librarian

Wednesday, 27 February, 2008.

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: Engineering and Information Technologies

Department/School presenting the proposal: [REDACTED]

Faculty Contact person and/or Academic Proponent: Liaquat Hossain
Ext. No: 69110
Email: l.hossain@usyd.edu.au

2.1.1 Type of proposal: New
 Amended **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
 Deletion

2.1.2 Type of course: Undergraduate
 Postgraduate coursework
 Postgraduate research

2.1.3 Name of award course(s)
 Name of **new** award course: Master of Professional Engineering OR

Name of **amended** award course: [REDACTED] OR

Change of name of **existing** award course: from [REDACTED] to [REDACTED] OR

Name of award course to be **deleted**: [REDACTED]

2.1.4 Abbreviated name
 MPE

2.1.5 Date of introduction or deletion
 Introduced: Year 2009 Semester 1
 Deletion: Year [REDACTED] Semester [REDACTED]

2.1.6 Fee review and Fee-setting

2.1.6.1 Fees for Undergraduate award course:

Undergraduate award course	Current fee band and fees (per 1 EFTSU per annum)		Proposed increase (%)		Proposed fee band and fees (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students

2.1.6.2 Fees for Postgraduate award course:

Postgraduate award course	Current fees (per 1 EFTSU per annum)		Proposed increase (%)		Proposed fees (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As per ME					20,412	25,704

PROPOSED BY:




Nominated Faculty Officer

Dean of Faculty (or Delegate)

APPROVAL:

Provost and Deputy Vice-Chancellor/Vice-Chancellor

SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: Engineering and Information Technologies

Department/School presenting the proposal: [REDACTED]

Faculty Contact person and/or: Liaquat Hossain Ext. No: 69110
Academic Proponent Email: l.hossain@usyd.edu.au

3.1.1 Type of proposal: New
Amended Please note if the proposal is changing the
course name, for example Bachelor of ABC to
Bachelor of AB (C) then this is a NEW course.
Deletion

3.1.2 Type of course: Undergraduate
Postgraduate coursework
Postgraduate research

3.1.3 Name of award course(s)
Name of new award course: Master of Professional Engineering OR
Name of amended award course: [REDACTED] OR
Change of name of existing award course: from [REDACTED] to [REDACTED] OR
Name of award course to be deleted: [REDACTED]

3.1.4 Abbreviated name
MPE

3.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1
Deletion: Year [REDACTED] Semester [REDACTED]

3.1.6 Course code
Course code of existing award course for amendment or deletion: New course code required.

3.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion: New CRICOS code required.

3.1.8 Short degree description (e.g. for the UAC Guide):
M Professional Engineering

3.1.9 Full degree description (e.g. for Faculty handbook):

Master of Professional Engineering

3.1.10 Level of award:

- Higher doctorate
- Doctor of Philosophy (PhD)
- Doctorate by research and advanced coursework
- Master's degree by research
- Master's degree by coursework
- Graduate Diploma
- Graduate Certificate
- Bachelor's degree
- Advanced Diploma
- Associate Diploma
- Diploma
- Certificate

3.1.11 Is this an Honours course? Yes No
Honours requirements (if applicable):

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes No

3.1.13 Name of award that will be conferred upon completion of course: Master of Professional Engineering

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the [Courses and Fees Toolkit](#)):

DEST Field of Education 03
DEST Discipline Area 03

3.1.15 Credit points required for the award: 96

3.1.16 Location/campus for student attendance:

Camperdown & Darlington	<input checked="" type="checkbox"/>	Camden	<input type="checkbox"/>	Cumberland	<input type="checkbox"/>
Mallett Street	<input type="checkbox"/>	St James	<input type="checkbox"/>	College of the Arts	<input type="checkbox"/>
Conservatorium	<input type="checkbox"/>	Offshore	<input type="checkbox"/>	please specify	<input type="checkbox"/>
Hospital (please specify)	<input type="checkbox"/>				<input type="checkbox"/>

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Prohibited Employment Declaration	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Health Records & Privacy Information Declaration	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

3.1.18 Prohibitions:

3.1.19 Articulation pathway (if applicable):

Students who successfully complete a Graduate Certificate in Engineering, Graduate Diploma in Engineering, a Master of Engineering, a Master of Project Management, a Master of Information Technology or a Master of Information Technology Management may articulate into the Master of Professional Engineering.

	Engineering Management					
ENGG5205	Professional Practice in Project Management	Core	EIT		1 & 2, Darlington	6
ENGG5210	Introduction to research methods in engineering	Core	EIT		1 & 2, Darlington	6
ENGG5214	Management of technology	Elective	EIT		1 & 2, Darlington	6
ENGG5215	International engineering strategies and operations	Elective	EIT		1 & 2, Darlington	6
ENGG5216	Management of engineering innovation	Elective	EIT		1 & 2, Darlington	6
ENGG5217	Industry Project	Elective	EIT		1 & 2, off-site	12
ENGG5218	Research Dissertation	Elective	EIT		1 & 2, Darlington	24

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

- 3.2.1** UAC code: (Undergraduate courses only)
- 3.2.2** CRICOS code: new code required
- 3.2.3** Career opportunities: Graduates of the MPE will fill an important role both locally and internationally in the Engineering Professions, including: mining, manufacturing, water, automotive industry, structural industry, IT industry, finance, management, environmental consultancy and the many areas where accredited engineers are employed.
- 3.2.4** Areas of study: Management, Civil Engineering, Chemical and Biomolecular Engineering, Electrical and Computer Engineering, Information Technology, Aeronautical Engineering, Mechanical Engineering, Power Engineering, Biomedical Engineering.
- 3.2.5** Assumed knowledge: A Bachelor's degree in Engineering or Science. University level Mathematics, and a combination of Physics, Computing, Biology, Geology and Chemistry.
- 3.2.6** Minimum education requirements:
- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| Year 12 (senior secondary certificate) or equivalent | <input type="checkbox"/> | Bachelor's degree (pass) | <input checked="" type="checkbox"/> |
| No minimum education | <input type="checkbox"/> | Bachelor (Hons) | <input type="checkbox"/> |
| Mature background | <input type="checkbox"/> | Graduate Certificate | <input type="checkbox"/> |
| Relevant employment experience | <input type="checkbox"/> | Graduate Diploma | <input type="checkbox"/> |
| | | Master's degree | <input type="checkbox"/> |
- Additional information: The average grade obtained in the Bachelors degree must be 65% or higher.
- 3.2.7** If the proposal is for a Postgraduate award course, please indicate the course method:
- | | | | |
|------------|--------------------------|----------------------------------|-------------------------------------|
| Coursework | <input type="checkbox"/> | Coursework with research pathway | <input checked="" type="checkbox"/> |
| Research | <input type="checkbox"/> | | |
- 3.2.8** UAI (for UG only): 2xxx (e.g. 2007)
- 3.2.9** Additional admission selection criteria: Students will be admitted by individual application.
- 3.2.10** If the course is offered to international students please complete the following:
UAI International (for international students only): (Undergraduate courses only)
Other international student entry requirements: IELTS (or equivalent as acceptable by the Academic Board) minimum of 6.5 with no bands lower than 6.
- 3.2.11** If the proposal is for a Postgraduate award course, please indicate the application closing date:
For local students, closing date for applications is As per University calendar dates.
For international students, closing date for applications is As per University calendar dates.
- 3.2.12** Will mid-semester intake be available for:
- | | | | | |
|-----------------------------------|-----|-------------------------------------|----|--------------------------|
| Commonwealth-supported students | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| Local fee-paying students | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| International fee-paying students | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The Faculty will market the MPE within its present marketing plan for all its postgraduate degrees. However the MPE, because of its professional accreditation, will have strong market interest from international students, mainly in India and China, as well as local students due to the skills shortage in engineering.

As a result marketing activities in Australia will include the professional body, the Institution of Engineers Australia; the Faculty's industry liaison unit Engineering Sydney; the Graduate School of Engineering; relevant industry newsletters as well as the existing advertising, websites, information evenings and University agent activities. The Faculty would in addition be seeking additional support from government organisations linked to the skills shortage.

Some informal market research has already taken place in India and China indicating interest in the program. Student focus groups in both countries were in favour of the degree due to its professional accreditation, job prospects and the length of the program.

The marketing plan includes on shore marketing activities in India and China twice per year, use of University agents, extension of the existing MOU's with Harbin and Dalian Universities in China, preparation of marketing materials including the GSE website, and updating all IO marketing materials.

The Faculty will also market this program in the Middle East as a potential new market area.

APPROVALS



Nominated Faculty Officer



Dean of Faculty (or Delegate)

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Faculty: Engineering and Information Technologies

Department/School presenting the proposal: [REDACTED]

Faculty Contact person and/or: Liaquat Hossain **Ext. No:** 69110
Academic Proponent **Email:** l.hossain@usyd.edu.au

4.1.1 Type of proposal: New
Amended **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion

4.1.2 Type of course: Undergraduate
Postgraduate coursework
Postgraduate research

4.1.3 Name of award course(s)
Name of **new** award course: Master of Professional Engineering OR
Name of **amended** award course: [REDACTED] OR
Change of name of **existing** award course: from [REDACTED] to [REDACTED] OR
Name of award course to be **deleted**: [REDACTED]

4.1.4 Abbreviated name
MPE

4.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1
Deletion: Year [REDACTED] Semester [REDACTED]

4.1.6 Course code
Course code of existing award course for amendment or deletion: new code required

4.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion: new code required

4.1.8 Marketing plan and strategy

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The Faculty will also market this program in the Middle East and Thailand as potential new market areas.

4.1.9 Availability of course

Will international students be able to enrol full-time?

Yes No

4.1.10 Mode of study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?

Yes No

4.1.11 Incidental (ancillary) fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?

Yes If yes please indicate the amount Up to \$100 per year on textbooks and course notes.

No

4.1.10 Commencement semester

Indicate whether entry to the course is possible in each semester.

SEM1 ONLY SEM1or 2 SEM2 ONLY

If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

.....

4.1.11 English language requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?

Yes If yes please indicate IELTS equivalent

No

APPROVALS

Gregory Hancock

.....
Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

.....
Director International Office

SECTION 5: OFFICE OF STRATEGY IMPLEMENTATION AND SUSTAINABILITY PLANNING

Faculty: Engineering and Information Technologies

Faculty Contact person and/or: Liaquat Hossain **Ext. No:** 69110
Academic Proponent **Email:** l.hossain@usyd.edu.au

5.1.1 Type of proposal: New
 Amended **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
 Deletion

5.1.2 Type of course: Undergraduate
 Postgraduate coursework
 Postgraduate research

5.1.3 Name of award course(s)
 Name of **new** award course: Master of Professional Engineering OR
 Name of **amended** award course: OR
Change of name of existing award course: from to OR
 Name of award course to be **deleted**:

5.1.4 Abbreviated name
 MPE

5.1.5 Date of introduction or deletion
 Introduced: Year 2009 Semester 1
 Deletion: Year Semester

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and IT		30%
Engineering and IT	Civil	20%
Engineering and IT	IT	10%
Engineering and IT	Chemical	15%
Engineering and IT	Electrical	10%
Engineering and IT	AMME	15%

5.1.7 Number of semesters required to complete the course in minimum time 4

5.1.8 Estimated student enrolments (i.e. head count)

Estimated student enrolments		2009	2010	2011
Commonwealth-supported places	Full-time	5	10	15
	Part-time			
Local fee-paying	Full-time	5	5	10
	Part-time		5	5
International fee-paying	Full-time	20	35	50
	Part-time			
Total student enrolments		30	55	80

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next.

e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1'.

5.1.10 IMPORTANT The University operates within a fixed target for Commonwealth-supported Place (CSP) load. Any new course proposals which include intakes of CSP (HECS) students must be accompanied by an indication of a corresponding reduction in the CSP intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction:

APPROVALS



Nominated Faculty Officer



Dean of Faculty or delegate



Annette Alexander
Faculty Secretary
Faculty of Engineering and Information Technologies
Room 234 SIT Building (J12)
The University of Sydney NSW 2006

26 May 2008

Dear Ms Alexander,

Supporting Statement for Course Proposal: Master of Professional Engineering

I write to provide my personal support of the Faculty of Engineering and Information Technologies' proposal to introduce this 2-year masters program.

The proposal addresses specifically one of the proposed actions under Recommendation 6 of the recent (then) Carrick Institute funded scoping project for the engineering discipline, entitled '*Addressing the Supply and Quality of Engineering Graduates for the New Century*'. The project was initiated and run by ACED, and its recommendations have been adopted by ACED. I was the project manager and author of the report.

That recommendation proposes that new pathways should be devised to prepare their graduates to enter practice as professional engineers. The present proposal addresses such pathways for graduates of engineering whose programs do not meet the current standards required for accreditation in the desired field, or for 'non-engineering' graduates. The present accredited pathways (that meet the Engineers Australia Stage 1 Competency Standard) are single degrees (such as the standard 4-year Bachelor of Engineering), 'integrated' dual degree structures (such as that provisionally accredited in the Melbourne University model) or allow credit to enter the senior years of accredited programs.

The high demand by international students for postgraduate awards in engineering is well established by recent demand patterns. Most of the awards available in Australia do not, however, contain the critical professional elements of the Stage 1 Competency Standard that are required for their graduates to enter practice as professional engineers. The proposed program remedies this deficiency very effectively in its structure of mandatory units, elective units, and professional practice units.

Given the continuing high demand for engineering graduates in many industries, the postgraduate pathway proposed for non-engineering graduates is also highly desirable, and also well conceived. Similarly, formalising educational processes for engineering graduates to change field is also highly desirable, and again well planned.

Emeritus Professor Robin King
Executive Officer: ACED
P O Box 384, EPPING, NSW 1710

T: +61 2 9514 7604 (part-time)
T: +61 2 9868 3113 (home)
M: 0418 823 415

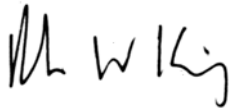
ACED is an unincorporated non-profit organisation

Email: rking@eng.uts.edu.au

The proposed structure of specialist, mandatory, elective, and research practice/professional practice is excellent, with good contemporary thematic content in areas like risk assessment, project management, innovation management. These are likely to become ever more central in future engineering practice. I am please to see explicit references to team-work and to industry experience, usually omitted from master programs in engineering.

The faculty is to be congratulated on developing this comprehensive proposal for enhancing the quality and value of educational pathways in engineering available to international students seeking to practice in Australia or overseas, and for extending pathways into engineering for other graduates. I look forward to hearing that the program has been approved by Academic Board, and in due course enrolls increasing numbers of students of all the categories intended.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'R W King'.

Professor Robin W King
Executive Officer

Disclaimer: I am currently also the Chair of the Accreditation Board of Engineers Australia. This note of support should not be used as any indication of the view that the Accreditation Board may take on a future application for accreditation. At present, the Board does not accredit stand-alone Masters degrees of the type proposed. The Board is, however, committed to examining future accreditation and recognition of such programs.

From: Ron Johnston [rj@eng.usyd.edu.au]

Sent: Thursday, 1 May 2008 12:37 PM

To: Annette Alexander

Subject: Re: MPE proposal support

Dear Annette,

I am delighted to offer my unqualified support for the proposal of the Faculty of Engineering to develop a Master of Professional Engineering.

Firstly, as an independent research and consulting organisation, with customers all over the world, we have identified a very strong demand for postgraduate education that will equip engineers and more broadly technical graduates with the skills required to perform as professional engineers. In Australia, this demand is reflected in the recent establishment by Engineers Australia of the Engineering Executive accreditation for professional engineers.

Secondly, as the primary provider of professional engineering education to engineering undergraduates in the Faculty of Engineering, and as a long term (some 7-8 years) teacher of a single UoS on professional engineering practice to coursework Masters students, we see great value in developing on this experience to provide a comprehensive Masters program in professional engineering.

With best wishes

Professor Ron Johnston FTSE
Executive Director
Australian Centre for Innovation.

Professor Ron Johnston
Australian Centre for Innovation
Faculty of Engineering
University of Sydney, NSW 2006
Tel: (61)-02-9351-3934
Fax: (61)-02-9351-3974
Email: rj@aciic.eng.usyd.edu.au, rj@aciic.org.au
Website: <http://www.aciic.org.au>