

PC-ENG Postgraduate Certificate in Engineering

Year and Campus:	2013 - Parkville
CRICOS Code:	045960B
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	50 credit points taken over 6 months full time. This course is available as full or part time.
Coordinator:	Assoc Prof Andrew Ooi
Contact:	<p>Melbourne School of Engineering Ground Floor, Old Engineering (Building 173)</p> <p>Current Students: Email: 13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au) Phone: 13 MELB (13 6352) +61 3 9035 5511</p> <p>Prospective Students: Email: eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au) Phone: + 61 3 8344 6944</p>
Course Overview:	The Postgraduate Certificate in Engineering is used to qualify students for further graduate study in a area related to their previous engineering degree and to provide foundation studies for students who have an engineering degree and who want to expand or update their knowledge. It is particularly useful for students returning to tertiary study after time away from an academic environment
Objectives:	<p>This course has as its objectives that graduates should:</p> <ul style="list-style-type: none"> # Have a sound fundamental understanding of the scientific principles underlying technology # Possess analytical, problem-solving and, where relevant, design skills, including those appropriate for sustainable development # Have verbal and written communication skills that enable them to make a meaningful contribution to the changes facing our society # Understand the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development
Course Structure & Available Subjects:	Students choose any four subjects (50 credit points) from the list of postgraduate subjects offered in Specialised Masters courses within the Melbourne School of Engineering, provided they have the pre-requisites. Students seeking subsequent entry to graduate programs offered by the Melbourne School of Engineering should seek appropriate course advice to ensure that they will have the required skills and knowledge at the completion of the program
Majors/Minors/ Specialisations	<p>Discipline areas and related subjects within the Postgraduate Certificate in Engineering</p> <p>Students may choose any four subjects from the list of postgraduate subjects offered within the following discipline areas:</p> <ul style="list-style-type: none"> # Engineering Management and Project Management # Environmental Engineering # Information and Communication Technology # Biomedical Engineering # Geographic Information Systems and Technology
Subject Options:	<p>Disciplines and subjects available in the Postgraduate Certificate in Engineering</p> <p>Engineering Management and Project Management</p> <p>The following subjects are available in the Postgraduate Certificate in Engineering in the engineering management and project management discipline</p>

Subject	Study Period Commencement:	Credit Points:
ENGM90007 Project Management Practices	Not offered 2013	12.50
ENGM90010 Management of Technological Enterprises	Semester 1	12.50
ENGM90006 Engineering Contracts and Procurement	Not offered 2013	12.50

Environmental Engineering

The following subjects are available in the Postgraduate Certificate in Engineering in the environmental engineering discipline

Subject	Study Period Commencement:	Credit Points:
CVEN90017 Earthquake Resistant Design of Buildings	Not offered 2013	12.50
CVEN90024 High Rise Structures	Not offered 2013	12.50
CVEN90026 Extreme Loading of Structures	Not offered 2013	12.50
ENEN90034 Environmental Applied Hydrology	Not offered 2013	12.50
ENEN90006 Solid Wastes to Sustainable Resources	Not offered 2013	12.50
CVEN90027 Geotechnical Applications	Not offered 2013	12.50
CVEN90016 Concrete Design and Technology	Not offered 2013	12.50
CVEN90018 Structural Dynamics and Modelling	Semester 2	12.50
CVEN90019 Sustainable Water Resources Systems	Not offered 2013	12.50
CVEN90035 Structural Theory and Design 3	Not offered 2013	12.50
ENEN90025 Design of Environmental Systems	Not offered 2013	12.50
ENEN90005 Environmental Management ISO 14000	Not offered 2013	12.50
ENEN90011 Energy Efficiency Technology	Not offered 2013	12.50
ENEN90030 Contaminant Hydrogeology	Not offered 2013	12.50
CVEN90043 Sustainable Infrastructure Engineering	Not offered 2013	12.50
ENEN90031 Quantitative Environmental Modelling	Not offered 2013	12.50
ENEN90028 Monitoring Environmental Impacts	Not offered 2013	12.50
ENEN90032 Environmental Analysis Tools	Not offered 2013	12.50
CVEN90019 Sustainable Water Resources Systems	Not offered 2013	12.50
ENEN90005 Environmental Management ISO 14000	Not offered 2013	12.50
ENEN90030 Contaminant Hydrogeology	Not offered 2013	12.50

Information and Communication Technology

The following subjects are available in the Postgraduate Certificate in Engineering in the Information and Communication Technology disciplines of Electrical and Electronic Engineering and in Computer Science and Software Engineering

Subject	Study Period Commencement:	Credit Points:
BMEN90002 Neural Information Processing	Not offered 2013	12.50

BMEN90003 Clinical Engineering	Not offered 2013	12.50
ELEN90006 Internet Engineering	Not offered 2013	12.50
ELEN90014 Multimedia Content Delivery	Semester 1	12.50
ELEN90008 Signalling and Network Management	Not offered 2013	12.50
ELEN90016 Broadband Access Networking and Design	Not offered 2013	12.50
ELEN90051 Advanced Communication Systems	Not offered 2013	12.50
ELEN90052 Advanced Signal Processing	Semester 1	12.50
ELEN90054 Probability and Random Models	Not offered 2013	12.50
ELEN90057 Communication Systems	Semester 2	12.50
ELEN90059 Lightwave Systems	Not offered 2013	12.50
ELEN90061 Communication Networks	Semester 2	12.50
ELEN90062 High Speed Electronics	Semester 2	12.50
ELEN90064 Advanced Control Systems	Semester 2	12.50
COMP90016 Computational Genomics	Not offered 2013	12.50
COMP90024 Cluster and Cloud Computing	Semester 2	12.50
COMP90041 Programming and Software Development	Not offered 2013	12.50
COMP90038 Algorithms and Complexity	Not offered 2013	12.50
COMP90007 Internet Technologies	Not offered 2013	12.50
COMP90015 Distributed Systems	Not offered 2013	12.50
ELEN90007 Wireless Communication Systems	Not offered 2013	12.50
SWEN90002 Engineering for Internet Applications	Not offered 2013	12.50
SWEN90003 IT Project Management	Not offered 2013	12.50
COMP90014 Algorithms for Functional Genomics	Not offered 2013	12.50
ELEN90003 Network Design and Optimisation	Not offered 2013	12.50
ELEN90013 Mobile and Wireless Networks and Design	Not offered 2013	12.50
ELEN90034 Optical Networking and Design	Not offered 2013	12.50

Biomedical Engineering

The following subjects are available in the Postgraduate Certificate in Engineering in the Biomedical Engineering discipline (further subjects will be offered)

Subject	Study Period Commencement:	Credit Points:
COMP90016 Computational Genomics	Not offered 2013	12.50
BMEN90002 Neural Information Processing	Not offered 2013	12.50
COMP90014 Algorithms for Functional Genomics	Not offered 2013	12.50
BMEN90003 Clinical Engineering	Not offered 2013	12.50

BMEN90011 Tissue Engineering & Stem Cells	Not offered 2013	12.50
BMEN90007 Anatomy & Physiology for Engineers	Not offered 2013	12.50

Geographic Information Systems and Technology

The following subjects are available in the Postgraduate Certificate in Engineering in the Geographic Information Systems and Technology discipline (further subjects will be offered)

Subject	Study Period Commencement:	Credit Points:
GEOM90008 Foundations of Spatial Information	Not offered 2013	12.50
GEOM90007 Spatial Visualisation	Not offered 2013	12.50
GEOM90018 Spatial Databases	Not offered 2013	12.50
GEOM90029 Spatial Visualisation on Line	Not offered 2013	12.50
GEOM90015 Spatial Data Infrastructure	Not offered 2013	12.50
GEOM90005 Remote Sensing	Not offered 2013	12.50
GEOM90006 Spatial Analysis	Not offered 2013	12.50
SWEN90003 IT Project Management	Not offered 2013	12.50
CVEN90045 Engineering Project Implementation	Not offered 2013	12.50

Entry Requirements:

Entry Requirements

Three year degree in engineering, science or related discipline with an average mark of 65% or greater.

Language Requirements

Please check the **University English language requirements** (<http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements>)

The **Melbourne School of Engineering's English Language alternative** (<http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements/graduate-toefl-ielts>) may affect the duration and cost of your course

Core Participation Requirements:

<p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p>

Further Study:

Successful completion of the Postgraduate Certificate in Engineering may allow you to enrol in some Masters by Coursework programs within the Melbourne School of Engineering

Graduate Attributes:

Demonstrate some knowledge and understanding of selected areas of a specialisation or across discipline areas
Access and appreciate national and international debates in their specialised areas of study or across discipline areas
Qualify for further graduate study in related areas to the area of specialisation

Professional Accreditation:

None

Generic Skills:

On completion of this course students should have:

	<ul style="list-style-type: none"># Strong analytical skills# Practical ingenuity and creativity# Understanding of global issues# Developed communication skills# Creativity# Lifelong learners
Links to further information:	http://www.eng.unimelb.edu.au/Postgrad/
Notes:	None