

Master of Engineering (Civil with Business)

Year and Campus:	2016
Coordinator:	Assoc Prof Nelson Lam Email: ntkl@unimelb.edu.au
Contact:	<p>Melbourne School of Engineering</p> <p>Current students:</p> <ul style="list-style-type: none"> # General information: https://ask.unimelb.edu.au (https://ask.unimelb.edu.au/) # Contact Stop 1 (http://students.unimelb.edu.au/stop1) <p>Future students:</p> <ul style="list-style-type: none"> # Further information: Degree Structure (http://www.eng.unimelb.edu.au/study/degrees/master-engineering-civil-business/overview) # Email: Enquiry Form
Overview:	<p>Civil engineers design and create many different kinds of infrastructure to support our society. This specialization offers the opportunity to study the core elements of civil engineering in the context of the business of engineering practice. It is the objective of this course that graduates have acquired a sound fundamental understanding of the scientific principles underlying a number of sub-disciplines including sustainability, environmental processes, structural engineering, geo-technical and hydraulic engineering, transport, and project management. In addition students study a series of subjects that are directed specifically to develop knowledge around the business context of engineering including marketing, financing, engineering contracts, economic analysis and strategic planning. Great emphasis is also placed on the development of generic skills with management, communication, problem-solving and design and innovation in civil engineering. Interaction with industry professionals is available through guest lectures, field and project work. Career opportunities abound in government, construction, property, infrastructure, consulting, mining, land, water, and waste.</p>
Learning Outcomes:	<p>On the successful completion of the Master of Engineering (Civil with business) students should have:</p> <ol style="list-style-type: none"> a) Gained advanced knowledge of the principles of civil engineering underpinning the provision of infrastructure b) Had the opportunity to develop research principles and methods in the field of civil engineering c) Cognitive skills to demonstrate mastery of theoretical knowledge and to reflect critically on theory and professional practice of civil engineering in the context of the business world d) Cognitive, technical and creative skills to investigate, analyse and synthesise complex information, problems, concepts and theories and to apply established theories to different bodies of knowledge or practice related to business and civil engineering e) Communication and technical research skills to justify and interpret theoretical propositions, methodologies, conclusions, professional and business decisions to engineering and non-engineering audiences g) Technical and communication skills to design, evaluate, implement, analyse, theorise about developments that contribute to professional practice or scholarship in the field of civil engineering <p>Graduates of Master of Engineering (Civil with Business) will demonstrate the application of knowledge & skills in the fields of infrastructure engineering with specific emphasis on the financial and business contexts of engineering practice:</p> <ol style="list-style-type: none"> h) With creativity and initiative to new situations in professional practice and/or for further learning i) With high level personal autonomy and accountability j) To plan and execute a substantial piece of scholarship
Structure & Available Subjects:	<p>The Master of Engineering (Civil with Business) consists of 300 points of study Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis:</p> <ul style="list-style-type: none"> # A maximum of 100 points for applicants with a 4 year Bachelor of Engineering or equivalent # A maximum of 100 points for applicants with a 3 year undergraduate degree. Students entering with a three year bachelor degree must complete at least 200 points of study

within the Masters of Engineering. In cases where applicants have completed the equivalent of more than 100 points of core masters subjects, discipline specific electives must be taken to fulfill the 200 minimum masters study requirement.

A list of discipline specific approved electives can be found under the Master of Engineering (Civil) specialisation description.

Note: applicants from the University of Melbourne with:

- # An appropriate "Engineering System" major will receive 100 points of advanced standing. Applicants who have completed more than 100 points of core subjects in their undergraduate degree will obtain exemption for the cores taken but will need to replace the points in excess of 100 points with elective subjects.
- # Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points

Subject Options:

Total 300 points - consisting of 287.5 credit points core (compulsory) subjects and 12.5 credit points of selective subjects. Students must complete all 300 points of subjects, or have advanced standing or exemption.

The core subjects are those listed below. The order of subjects below is one way of progressing through the course - students who meet subject requisites may tailor their individual study plan to take into account advanced standing and their preferred study load. Students plan their study online, however Melbourne School of Engineering course advisors are available to assist students with individual study plans.

Suggested first 100 points:

- # 100 credit points Core

Subject	Study Period Commencement:	Credit Points:
ENGR20004 Engineering Mechanics	Summer Term, Semester 1, Semester 2	12.50
ENGR30002 Fluid Mechanics	Semester 1, Semester 2	12.50
ENGR90021 Engineering Practice and Communication	Semester 1, Semester 2	12.50
MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
ENEN20002 Earth Processes for Engineering	Semester 2	12.50
ENGR20003 Engineering Materials	Semester 2	12.50
CVEN30009 Structural Theory and Design	Semester 2	12.50
CVEN30010 Systems Modelling and Design	Semester 2	12.50

Suggested second 100 points:

- # 100 credit points Core

Subject	Study Period Commencement:	Credit Points:
CVEN90043 Sustainable Infrastructure Engineering	Semester 1	12.50
CVEN90044 Engineering Site Characterisation	Semester 1	12.50
CVEN90049 Structural Theory and Design 2	Semester 1	12.50
CVEN90045 Engineering Project Implementation	Semester 2	12.50
CVEN90048 Transport Systems	Semester 2	12.50
CVEN90051 Civil Hydraulics	Semester 2	12.50
ENGM90014 The World of Engineering Management	Semester 1, Semester 2	12.50

ENGM90012 Marketing Management for Engineers	Semester 2	12.50
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Suggested third 100 points:

87.5 credit points Core

NOTE:

- # CVEN90022 IE Research Project 1 is of year long duration. Students may commence in either semester 1 or semester 2 and continue in the consecutive semester. The subject will take up 25 credit points in total.
- # Students can complete **CVEN90047 IE Research 2** ([../view/current/CVEN90047](http://handbook.unimelb.edu.au/view/current/CVEN90047)) in a single semester in place of completing CVEN90022 IE Research Project 1 over two semesters.

Subject	Study Period Commencement:	Credit Points:
CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50
CVEN90050 Geotechnical Engineering	Semester 1	12.50
CVEN90058 Construction Engineering	Semester 2	12.50
ENGM90006 Engineering Contracts and Procurement	Semester 2	12.50
ENGM90011 Economic Analysis for Engineers	Semester 1	12.50
ENGM90013 Strategy Execution for Engineers	Semester 1, Semester 2	12.50

12.5 credit points Civil Engineering Selectives. Students must choose **one** of the below subjects

Subject	Study Period Commencement:	Credit Points:
CVEN90059 Integrated Design - Infrastructure	Semester 1	12.50
CVEN90060 Integrated Design - Civil	Semester 2	12.50

Links to further information:	http://www.eng.unimelb.edu.au/study/degrees/master-engineering-civil-business/overview
Notes:	# ENGR30002 Fluid Mechanics replaced ENGR30001 Fluid Mechanics & Thermodynamics in 2013. Students who have completed ENGR30001 prior to 2013 are not required to undertake ENGR30002. Credit cannot be obtained for both subjects
Related Course(s):	Master of Engineering