Master of Engineering (Environmental)

Year and Campus:	2014
Coordinator:	Dr Dongryeol Ryu dryu@unimelb.edu.au
Contact:	Melbourne School of Engineering Ground Floor, Old Engineering (Building 173) Current students: Email: **13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)** Phone: 13MELB (13 6352) +61 3 9035 5511 Prospective students: Visit **Master of Engineering (Environmental) (http://www.eng.unimelb.edu.au/study/graduate/master-eng-environmental.html)**
Overview:	Environmental engineers create sustainable solutions to environmental challenges. Students in this specialisation learn from staff active in research areas specialisations such as hydrology, irrigation and water management. The course has a strong focus on sustainability and project management. Guest lectures and seminars by industry professionals are available to students, along with community project work and site visits that combine theory with practice. Career opportunities exist with; agencies for conservation, natural resource management and environmental protection, in-house and external consultancy groups for the private and public sector on sustainability issues, and international sustainable development work.
Learning Outcomes:	To produce graduates who are both skilled in environmental engineering principles and have the ability to apply them to complex, open-ended engineering tasks and problems.
Structure & Available Subjects:	The Master of Engineering (Environmental) consists of 300 points - 237.5 points core and 62.5 points elective subjects, as detailed below. Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis: # 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. 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. Elective/s may be either discipline specific or approved (as defined in *Suggested second hundred points* of the course structure). # Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points.
Subject Options:	Total 300 ponts - 237.5 points core (compulsory) and 62.5 points elective subjects from the lists below. Students must complete all 300 points of subjects, including all core subjects, or have advanced standing or exemption. The core and elective 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 on-line, however Melbourne School of Engineering course advisors are available to assist students with individual study plans. **Suggested 100 points in Year 1:**

100 points Core as listed below

Please note: In 2013 ENGR30001 Fluid Mechanics & Thermodynamics was replaced with ENGR30002 Fluid Mechanics. Students who have completed ENGR30001 are not required to completed ENGR30002.

Core (Total 100 points)

Subject	Study Period Commencement:	Credit Points:
ENGR20004 Engineering Mechanics	Summer Term, Semester 1, Semester 2	12.50
MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
ENGR90021 Engineering Communication	Semester 1, Semester 2	12.50
ENGR30002 Fluid Mechanics	Semester 1, Semester 2	12.50
CVEN30008 Risk Analysis	Semester 1	12.50
ENEN20002 Earth Processes for Engineering	Semester 2	12.50
ENGR20003 Engineering Materials	Semester 2	12.50
CVEN30010 Systems Modelling and Design	Semester 2	12.50

Suggested 100 points in Year 2:

87.5 points Core
12.5 points Approved Elective

An Approved Elective is: Subject to approval by the specialisation coordinator - any graduate subject. For subjects outside of Engineering, students may also require approval of the other faculty. No approval is required for Environmental Engineering Electives.

Core (Total 87.5 points)

Subject	Study Period Commencement:	Credit Points:
ENEN90031 Quantitative Environmental Modelling	Semester 1	12.50
CVEN90043 Sustainable Infrastructure Engineering	Semester 1	12.50
CVEN90044 Engineering Site Characterisation	Semester 1	12.50
CVEN90045 Engineering Project Implementation	Semester 2	12.50
CVEN90051 Civil Hydraulics	Semester 2	12.50
ENEN90032 Environmental Analysis Tools	Semester 2	12.50
ENEN90028 Monitoring Environmental Impacts	Semester 2	12.50

Suggested 100 points in Year 3:

25 points Core
25 points from the Research Component (core) listed below
50 points from the Environmental Engineering Electives listed below

Core Component

(Total 25 points)

Subject	Study Period Commencement:	Credit Points:
CVEN90052 Integrated Design	Year Long	25

Research Component

(Total 25 points)

Students must choose ONE only of the subjects listed below:

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. CVEN90047 IE Research Project 2 is completed over one semester only.

Subject	Study Period Commencement:	Credit Points:
CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50
CVEN90047 IE Research Project 2	Semester 1, Semester 2	25

Environmental Engineering Electives

(Total 50 points)

Subject	Study Period Commencement:	Credit Points:
CVEN90050 Geotechnical Engineering	Semester 1	12.50
ENEN90006 Solid Wastes to Sustainable Resources	Semester 1	12.50
ENEN90027 Energy for Sustainable Development	Not offered 2014	12.50
ENEN90029 Water and Waste Water Management	Semester 1	12.50
ENEN90033 Solar Energy	Semester 1	12.50
ENEN90034 Environmental Applied Hydrology	Semester 1	12.50
CVEN90019 Sustainable Water Resources Systems	Semester 2	12.50
ENEN90005 Environmental Management ISO 14000	Semester 2	12.50
ENEN90011 Energy Efficiency Technology	Semester 2	12.50
ENEN90030 Groundwater Hydrology	Semester 2	12.50
GEOM90033 Satellite Positioning Systems	Semester 2	12.50
ENEN90014 Sustainable Buildings	September	12.50

Links to further information:	http://www.eng.unimelb.edu.au/Postgrad/MEng/me_environmental.html
Related Course(s):	Master of Engineering