

EVSC20002 Soil and Water Resources

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	This subject is not offered in 2014.
Time Commitment:	Contact Hours: Twenty-four hours lectures, Thirty-six hours practicals Total Time Commitment: 108 hours.
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	A reasonable knowledge of the fundamentals of chemistry is recommended.
Non Allowed Subjects:	None
Core Participation Requirements:	Students undertaking this subject will be expected to regularly (at least weekly) access an internet-enabled computer. For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Contact:	<p>Melbourne School of Land & Environment Student Centre Ground Floor, Melbourne School of Land & Environment (building 142)</p> <p><i>Enquiries</i> Phone: 13 MELB (13 6352) Email: 13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)</p>
Subject Overview:	This subject will identify the importance of soil and water in the landscape and as key components of natural and production systems. A basic knowledge of soil properties and behaviour will be applied to understanding the cycling of water and nutrients, the appropriate use of fertilisers, irrigation and drainage and soil management practices designed to maintain or improve the condition of soil and water resources. The origin of soil variation in the landscape and codification of soil information through classification will be introduced.
Learning Outcomes:	<p>This subject will cover areas including:</p> <ul style="list-style-type: none"> # the origins of soil variability and how this variability is expressed through the properties and behaviour of soil in the field; # soil profile description and an introduction to soil classification (the Australian Soil Classification); # the physical and chemical nature of soil minerals and organic matter; the main soil organisms and their functions; # reactions in soil between the solution and surfaces; # soil structure, aeration, water retention and movement, availability of water to plants and effects of waterlogging; # introduction of nutrient cycling and its importance in natural and production systems (agriculture, horticulture and forestry); # the hydrological cycle, with emphasis on the major processes - precipitation, evaporation, runoff and drainage; # land degradation processes and their management - accelerated soil acidification, sodicity, salinity and erosion; # understanding the processes and the extent of the problems; # remedial measures; and # the impact of soil management on the water quality and quantity.

Assessment:	50% Exam – 2000 word equivalent 30% Practical report – 1200 words word equivalent 20% Assessment tasks – 800 words word equivalent
Prescribed Texts:	White, R.E. (2005). Principles and Practice of Soil Science. 4th Edition. Blackwell Science.
Recommended Texts:	Ashman, M.R. and Puri, G. (2001). <i>Essential Soil Science: a clear and concise introduction to soil science</i> . Blackwell Science. Pigram, J.J. (2006). <i>Australia's Water Resources: from use to management</i> . CSIRO Publishing.
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2014/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2014/B-COM) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2014/B-MUS) You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completing this subject, participants should be able to: # apply theories and principles to specific contexts; # plan work, use time effectively and manage small projects; # work constructively with colleagues; # collect, evaluate and integrate information to solve problems in applied situations, including the use and manipulation of quantitative information and published literature in building arguments; # learn new concepts and to apply that learning to complex systems; # identify gaps in their knowledge and respect the value of other disciplines and points of view; # begin to identify components of complex systems and elucidate interactions between components; and # prepare written documents of high quality that clearly and convincingly inform the reader.
Notes:	This subject is available for science credit to students enrolled in the BSc (new degree only).
Related Majors/Minors/Specialisations:	Environments Discipline subjects Landscape Management major Production Animal Health Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED Sustainable Production