

202-203 Soil and Water Resources

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four hours lectures, 36 hours practicals Total Time Commitment: Not available
Prerequisites:	202-101 Chemistry for Land and Food Resources.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	<p><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><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></p> </p>
Coordinator:	Dr Robert Edis
Subject Overview:	<p>This subject will identify the importance of soil and water in the landscape and as key components of ecosystems, both natural ecosystems 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 soil and water resources in good condition. The origin of soil variation in the landscape and codification of soil information through classification will be introduced.</p> <p>The 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 soils in the field (builds on the 100-level subject Land Resources); # soil profile description; 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 function; reactions in the soil solution and between the solution and surfaces; # soil structure, aeration, water retention and movement, availability of water to plants and effects of waterlogging; # introduction to nutrient cycling and its importance in natural ecosystems and production systems (agriculture, horticulture and forestry); emphasis on N, P, K and S; use of fertilisers and other soil amendments to correct nutritional problems; # the hydrological cycle, with emphasis on the major processes - precipitation, evaporation, runoff and drainage; catchment processes and water management at the farm scale, including irrigation. Examples of water balances at large (basin) and small (farm) scales;

	<p># 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</p> <p># the impact of soil management on water quality, especially with respect to nutrients and salts.</p>
Assessment:	Three-hour examination (50%) and two assignments equivalent to 3000 words (each worth 25%).
Prescribed Texts:	None
Recommended Texts:	<p>Recommended Texts:</p> <p># Principles and Practice of Soil Science (R E White), 4th edn, Blackwell Science, 2005</p>
Breadth Options:	<p>This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	Information Not Available
Related Course(s):	<p>Bachelor of Agricultural Science</p> <p>Bachelor of Agricultural Science</p> <p>Bachelor of Agricultural Science/Bachelor of Commerce</p> <p>Bachelor of Forest Science</p> <p>Bachelor of Forest Science</p> <p>Bachelor of Forest Science/Bachelor of Science</p> <p>Bachelor of Natural Resource Management</p> <p>Bachelor of Natural Resource Management</p>