

ENEN20002 Earth Processes for Engineering

Credit Points:	12.50									
Level:	2 (Undergraduate)									
Dates & Locations:	This subject is not offered in 2011.									
Time Commitment:	Contact Hours: 49 hours (Lectures: 36 hours , Tutorials: 11 hours , Laboratories: One 2 hour session) per semester Total Time Commitment: 120 hours									
Prerequisites:	<p>Admission to the Master of Engineering OR EITHER of the following subjects:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ENGR10003 Engineering Systems Design 2</td> <td>Not offered 2011</td> <td>12.50</td> </tr> <tr> <td>ENVS10001 Natural Environments</td> <td>Not offered 2011</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ENGR10003 Engineering Systems Design 2	Not offered 2011	12.50	ENVS10001 Natural Environments	Not offered 2011	12.50
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ENGR10003 Engineering Systems Design 2	Not offered 2011	12.50								
ENVS10001 Natural Environments	Not offered 2011	12.50								
Corequisites:	None									
Recommended Background Knowledge:	None									
Non Allowed Subjects:	421-209 Geomechanics 1									
Core Participation Requirements:	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:	Dr Sam Yuen stsy@unimelb.edu.au (mailto:stsy@unimelb.edu.au)									
Subject Overview:	Earth Processes introduces physical earth processes and their engineering applications and implications. In particular, it concentrates on engineering relevant aspects of climate, water and soils and their interactions. Simplified modelling and relevant analytical techniques are introduced throughout the subject									
Objectives:	<p>On completion of this subject students should be able to:</p> <ul style="list-style-type: none"> # identify key aspects of the climate, soil and water environment that their course is directed towards # describe and quantify aspects of the climate system, climate variability and climate change # describe and analyse hydrological systems and the cycling and transformation of water and energy in those systems, including aspects of their variability, dependence on climate and landuse and implications for soil water and runoff behaviour # describe the key soil and landscape forming processes and their geomechanical implications # describe the concept of sustainability and, given a project description, identify and justify analyses required to assess aspects of environmental sustainability in the context of climate, water and soils # quantify various constituents of soil and rock and classify them with hydrological and engineering implication # understand how water and soil interact in natural hydrological systems and in engineering designs and quantify soil behaviour and stability caused by interaction of soil and water # assess soil stability in both natural and engineering systems with the ability to predict stresses and strengths within a soil mass 									

Assessment:	One 2 hour examination, end of semester examination (50%) Four assignments no more than 4000 words in total, due throughout the semester (40%) One laboratory report of up to 1000 words (10%) Hurdle Requirement: Students must pass both assignment and examination components to pass the subject
Prescribed Texts:	None
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2011/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2011/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2011/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2011/B-MUS) <p>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.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<ul style="list-style-type: none"> # Ability to apply knowledge of basic science and engineering fundamentals # Ability to undertake problem identification, formulation and solution # Critical thinking and judgement # Ability to communicate effectively # Understanding environmental responsibilities and the need for sustainable development # Ability to function effectively as an individual with the capacity to be an effective team members
Notes:	This subject has replaced 421-209 Geomechanics 1 This subject is available for science credit to students enrolled in the BSc
Related Course(s):	Bachelor of Science
Related Majors/Minors/Specialisations:	B-ENG Civil Engineering stream Civil (Engineering) Systems Master of Engineering (Civil) Master of Engineering (Environmental) Master of Engineering (Structural) Physical (Environmental Engineering) Systems
Related Breadth Track(s):	Civil and Environmental Systems Engineering and Environments