

## 880-101 Natural Environments

<b>Credit Points:</b>	12.50
<b>Level:</b>	1 (Undergraduate)
<b>Dates &amp; Locations:</b>	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Semester 2, - Taught on campus. On-campus
<b>Time Commitment:</b>	Contact Hours: 24 hours of lectures, 12 hours of tutorials, and 12 hours of lab classes. Total Time Commitment: 120 hours
<b>Prerequisites:</b>	None
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. This subject requires all students to actively and safely participate in laboratory activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
<b>Coordinator:</b>	Dr Tony Weatherley
<b>Subject Overview:</b>	<p>An understanding of natural systems is crucial for sustainable management and design. This core subject of the Bachelor of Environments degree introduces students to the main systems that shape the natural world. The subject examines the evolution of the planet Earth, our climate and global weather and the formation and processes of our present landscapes and associated ecosystems.</p> <p>Topics for discussion include: plate tectonics; climate change; the water cycle; major biogeochemical processes, such as soil formation, and the interactions and implications of these processes for the distribution, properties and functioning of tropical and temperate forests, grasslands, deserts, arctic and alpine landscapes; historical and current patterns of plant and animal biodiversity; ecological principles; the scales at which we examine natural systems. The subject utilises topical case studies from diverse discipline areas to emphasise key fundamentals underpinning sustainable management and design.</p>
<b>Objectives:</b>	<p>At the completion of this subject students should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss how sustainable management and design stems from a respect of our planet's natural systems;</li> <li>• Describe the processes that led to the formation of the Earth and the continents as we now know them;</li> <li>• Describe and begin to quantify the principles and nature of the global atmospheric circulation system and implications for patterns of global climate and weather;</li> <li>• Describe the nature of climate change and variability and begin to quantify the planet's energy balances, especially as they relate to current global warming;</li> <li>• Describe the key facets of evolution as they affect species diversity and key events such as mass extinctions and precursors to biodiversity change;</li> <li>• Describe and begin to quantify the water cycle, including the impact of catchment hydrology on stream flow and water resources;</li> <li>• Recognise the processes that shape our landscape and identify the factors that influence soil formation;</li> <li>• Describe key soil types and list their attributes;</li> <li>• Describe the attributes of the major biogeographical realms;</li> <li>• Discuss different approaches to the principles of ecology and the interactions between the physical and biological that lead to ecological systems of differing character and scale.</li> </ul>

<b>Assessment:</b>	3 online in-semester quizzes of 20-30 minutes duration each (15%); 10 minute project outline (oral progress report during tutorial) from group project (15%); final report of group project of 2000-3000 words (20%); final presentation of 15-20 minutes of semester long group project (10%); 2-hour end of semester examination (40%).
<b>Prescribed Texts:</b>	Bridgman, H, Dragovich, D and Dodson, J (2008), The Australian Physical Environment, Oxford University Press
<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># <b>Bachelor of Arts</b> (<a href="https://handbook.unimelb.edu.au/view/2009/D09">https://handbook.unimelb.edu.au/view/2009/D09</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2009/F04">https://handbook.unimelb.edu.au/view/2009/F04</a>)</li> <li># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2009/M05">https://handbook.unimelb.edu.au/view/2009/M05</a>)</li> </ul> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>At the completion of this subject students should have the following skills:</p> <ul style="list-style-type: none"> <li># An ability to utilise a systems approach to analysing natural systems</li> <li># A capacity for independent critical thought, rational inquiry and self-directed learning</li> <li># A profound respect for truth and intellectual integrity, and for the ethics of scholarship</li> <li># Begun to develop a technical competence in analysing natural systems</li> </ul>
<b>Links to further information:</b>	<a href="http://www.benvs.unimelb.edu.au/">http://www.benvs.unimelb.edu.au/</a>
<b>Notes:</b>	Students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course will receive science credit for the completion of this subject.
<b>Related Course(s):</b>	<p>Bachelor of Engineering (Environmental) and Bachelor of Arts          Bachelor of Engineering (Environmental) and Bachelor of Commerce          Bachelor of Engineering (Environmental) and Bachelor of Laws          Bachelor of Environments          Bachelor of Geomatic Engineering</p>
<b>Related Majors/Minors/Specialisations:</b>	First year geography and environments