ERTH10001 The Global Environment

Credit Points:	12.50
Level:	1 (Undergraduate)
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 x one hour lectures per week, 1 x two hour practical class per week Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering applications for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005) and Students Experiencing Academic Disadvantage Policy, 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. Hhttp://www.services.unimelb.edu.au/disability/
Coordinator:	Dr Anne-Marie Tosolini
Contact:	**Email:** a.tosolini@unimelb.edu.au
Subject Overview:	This subject provides an overview of the processes controlling the formation and evolution of our global environment. We begin by exploring the origin of the Earth as a planet within the solar system, its layered structure and (solid and fluid) constituent properties, and the importance of the orbital characteristics in controlling changes in the global climate. The evolution of the major physical features and landscapes of the Earth, including the continents, ocean basins and mountain belts, are described in terms of plate tectonics and its constituent processes of continental drift and sea-floor spreading. The nature of volcanic and earthquake processes, that are concentrated at plate boundaries, and also those that occur more widely, like weathering and erosion, transport of sediments and biogeochemical cycling are also discussed. The evolution and origin of life on Earth are discussed in the context of evolving atmospheres and climates. The structure and general circulation of the atmosphere and ocean are also examined, including descriptions of the Earth's present climate, the hydrological cycle, weather systems, ocean currents, and past and future climate change. Throughout the course, the material will highlight the potential societal benefits, e.g., mineral resources and alternative energy sources, as well as natural hazards like volcanoes, earthquakes, severe weather, and future climate change.
Objectives:	On completion of this subject, students should have gained a holistic view of the global environment, encompassing the solid and fluid Earth and its formation, evolution, and modern structure. Students will be familiar with: the materials that comprise the Earth, atmosphere and oceans; the complex interplays between these three media; the modes of formation and the underlying processes that drive the evolution of the solid Earth and landscape; and changes in the Earth's climate on modern and geological timescales. This subject provides the foundation for further study in Geology and/or Atmospheric and Oceanic sciences.
Assessment:	Short tests held during practical sessions (20%); a group research project with a poster presentation (15%); a Weather Diary group assessment task (15%); a 2-hour written examination in the examination period (50%). A pass in the practical work is necessary to pass the subject.

Prescribed Texts:	To be advised
Recommended Texts:	Earth's Dynamic Systems, Web Edition, Hamblin and Christiansen, available online.
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/2012/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2012/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2012/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2012/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:	The generic skills acquired in this subject include: # learning how to approach problems when there may be no right answer; # applying discipline knowledge to issues of public debate (e.g. climate change); # tackling complex exercises within a team environment in the laboratory; and # observing in the laboratory the basic materials of the global environment.
Notes:	This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course. Subject presented by Professor A J W Gleadow, Professor David Karoly and other experts in the field.
Related Majors/Minors/ Specialisations:	Earth Sciences Environmental Studies Major Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.