GEOL30007 Geobiology and Palaeobiology

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: A total of 22 hours of lectures; 11 x three hour practicals; 1 x one day field trip Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	Completion of **Subject** / **Study Period Commencement:** / **Credit Points:** ERTH10002 Understanding Planet Earth / Semester 2 / 12.50 Or any tertiary level biology or microbiology subject
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. http://www.services.unimelb.edu.au/disability/
Coordinator:	Assoc Prof Stephen Gallagher, Dr John Moreau
Contact:	**Email: sjgall@unimelb.edu.au (mailto:sjgall@unimelb.edu.au)**
Subject Overview:	Geobiology and palaeobiology involve the study of interactions between Earth's geosphere and biosphere, and how these interactions impact or reflect environmental conditions. This subject includes the fields of geomicrobiology, biogeochemistry, biomineralization, fossilization and palaeontology. This subject will survey the fundamental principles used in geobiology and palaeobiology, explain how biological processes influence most geochemical reactions in the Earth's regolith and oceans, and show how palaeoenvironmental conditions controlled the evolution and preservation of geologically ancient lifeforms as fossils. This subject will demonstrate how fundamental knowledge of microbially-mediated biogeochemistry, mineral and organic biomarkers, and fossil assemblages can be directly applied to a wide range of problems in the petroleum, mineral and environmental industries, and used to interpret past environments, climates and oceanography.
Objectives:	On completion of this subject, students will gain insights into links among biogeochemical cycling, the evolution of life on Earth, and the significance of Earth's macro- and microfossil record for interpreting past and modern environments, climate and oceanography. Students will also become familiar with how microorganisms and fossils can be used for resolving practical problems in the petroleum, mining and environmental industries.
Assessment:	Practical component (50% total) includes two short tests (20%) and two laboratory/field reports (30). A 3-hour written examination will be given in the examination period (50%). A topic selected from assigned readings will be assessed in the examination.
Prescribed Texts:	To be advised.
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/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)** 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 scientific problems when there may be no clear and simple answer; # tackling complex exercises within a team environment in the field and laboratory; and # conducting experiments and observations in the laboratory 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. Please note that there is a $50 course fee for this subject (lab materials and field trip costs)
Related Course(s):	Bachelor of Science
Related Majors/Minors/ Specialisations:	Geology Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses