GEOL30007 Geobiology and Palaeobiology

Credit Points:	12.5
Level:	3 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: A total of 20 hours of lectures; 10 x three hour practicals; 2 x one day field trips Total Time Commitment: Estimated total time commitment of 170 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 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. 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
Coordinator:	Dr John Moreau
Contact:	**Email: jmoreau@unimelb.edu.au (mailto:jmoreau@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.
Learning Outcomes:	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 (60% total) includes four short tests (20%) and two laboratory/field reports (40%). A 2-hour written examination in the examination period (40%). 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/2016/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2016/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2016/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2016/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 $100 course fee for this subject (lab materials and field trip costs)
Related Course(s):	Master of Geoscience
Related Majors/Minors/ Specialisations:	Geology Geology Geology Geology Geology Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED