

## ERTH90031 Regolith Geoscience

<b>Credit Points:</b>	6.25
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	This subject is not offered in 2016.
<b>Time Commitment:</b>	Contact Hours: 18 hours lectures, 8 hours labs, 7 hours field work Total Time Commitment: 85 hours
<b>Prerequisites:</b>	None
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	Knowledge of third-year geology strongly recommended.
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;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.&lt;/p&gt;         &lt;p&gt;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: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Contact:</b>	kevin.walsh@unimelb.edu.au
<b>Subject Overview:</b>	<p>This course is focussed on regolith, a vital part of Australian landscapes that is becoming increasingly important in mineral exploration and land management. We begin by presenting basic and advanced concepts in the formation and evolution of regolith, including its physical and chemical characteristics, the physical and biogeochemical processes that affect its structure and composition, and the dispersion and concentration of elements. We follow with concepts and applications focussed specifically on geochemical and geophysical exploration methods that are used to assess mineralisation potential within and underneath the regolith. Field excursions will help to consolidate knowledge and understanding developed in lectures and practical exercises.</p>
<b>Learning Outcomes:</b>	<ul style="list-style-type: none"> <li># This subject aims to equip students with discipline-specific knowledge and expertise appropriate for post-graduate research in the field; equip students with discipline-specific knowledge and expertise enabling them to take their place as professional geologists in industry or government organisations;</li> <li># to gain an understanding of key concepts of regolith characteristics and evolution;</li> <li># biophysical processes that affect the regolith, e.g., weathering, erosion and transport;</li> <li># regolith materials, including mineralogy and geochemistry;</li> <li># element dispersion and/or concentration in the regolith; exploration methods using geochemistry and geophysics for mineralisation within and below the regolith;</li> <li># and sampling and analytical methods for regolith, water and biota.</li> </ul>
<b>Assessment:</b>	<p>Practical exercises equivalent to 1250 words, due by the end of the teaching period (50%)          Report equivalent to 1250 words, due by the end of the teaching period (50%)</p>
<b>Prescribed Texts:</b>	<p>Pain, C.F., Pillans, B.J., Roach, I.C., Worrall, L. and Wilford, J.R., 2012. Old, flat and red - Australia's distinctive landscape. In: R.S. Blewett (Editor), Shaping a Nation: A Geology of Australia. Geoscience Australia and ANU E Press, Canberra, pp. 226-275. (available for free download from ANU Press).</p>
<b>Breadth Options:</b>	This subject is not available as a breadth subject.

<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>	<ul style="list-style-type: none"><li># Exercise critical judgement;</li><li># undertake rigorous and independent thinking;</li><li># adopt a problem-solving approach to new and unfamiliar tasks;</li><li># develop high-level written report and/or oral presentation skills;</li><li># interrogate, synthesise and interpret the published literature;</li><li># work as part of a team.</li></ul>
<b>Related Course(s):</b>	Master of Geoscience Master of Science (Earth Sciences)
<b>Related Majors/Minors/ Specialisations:</b>	Earth Sciences Honours Program - Earth Sciences