

# GEOL90028 Geochronology and Thermochronology

<b>Credit Points:</b>	6.25
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2016, Parkville This subject commences in the following study period/s: March, Parkville - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 14 hours lectures, 17 hours practicals Total Time Commitment: 85 hours
<b>Prerequisites:</b>	None
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	A knowledge of third-year geology is strongly recommended, along with a working knowledge of Excel.
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>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.</p> <p>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: <a href="http://services.unimelb.edu.au/disability">http://services.unimelb.edu.au/disability</a></p>
<b>Coordinator:</b>	Assoc Prof Kevin Walsh
<b>Contact:</b>	kevin.walsh@unimelb.edu.au
<b>Subject Overview:</b>	The course covers the basic principles of Ar-Ar, Rb-Sr, Sm-Nd, U-Pb (conventional Pb-Pb, U-Pb, SHRIMP, LA-ICPMS, CHIME), Lu-Hf and Re-Os, as well as fission track and (U-Th)/He thermochronology. The application of these geochronology/thermochronology and isotopic tracing methods to a variety of geological problems will be presented. Afternoon sessions will be devoted to pracs (calculating ages, meaning of errors, plotting data e.g. isochrons, U-Pb plots, histograms using the computer package ISOPLOT and modelling thermal histories).
<b>Learning Outcomes:</b>	<ul style="list-style-type: none"> <li># Equip students with discipline-specific knowledge and expertise appropriate for post-graduate research in the field;</li> <li># Equip students with discipline-specific knowledge and expertise enabling them to take their place as professional geologists in industry or government organisations;</li> <li># This subject will provide students with the confidence and competence to employ geochemical and/or geochronological data to determine the relationships between magmatism, metamorphism, deformation and sedimentation.</li> </ul>
<b>Assessment:</b>	Two practical exercises (3 hours each) due one week after the end of the teaching period (40%) 3 hour exam, taken on the last day of the teaching period (60%)
<b>Prescribed Texts:</b>	Reading expected to be completed in the pre-teaching period.
<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> </ul>

	<ul style="list-style-type: none"> <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