

610-284 Practical Chemistry

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus. Lectures, tutorials and practical classes
Time Commitment:	Contact Hours: One 3-hour practical class per week; one 3.5-hour practical class per week; one 1-hour lecture per week for six weeks; one 1-hour tutorial per week for two weeks. Total 86 hours. Total Time Commitment: 120 hours total time commitment.
Prerequisites:	<i>Reactions and Synthesis</i> and <i>Structure and Properties</i> (which may be taken concurrently)
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Students who have completed two or more of 610-215, 610-225 and 610-245 (prior to 2009) may not also gain credit for <i>Practical Chemistry</i> .
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. 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. Students will be required to conduct themselves in a manner that is safe to themselves and those around them in a chemical laboratory environment.
Coordinator:	Dr Stephen Best
Subject Overview:	<p>This subject allows students to develop skills in the synthesis of different classes of organic and inorganic compounds; analysis of samples with single and multiple components; determination of the kinetic and thermodynamic properties of molecules; measurement and interpretation of the spectroscopic and magnetic properties of inorganic and organic compounds. Students will have the opportunity to obtain expertise in the operation of modern analytical and spectroscopic techniques (including chromatography, atomic and molecular spectroscopy, mass spectrometry).</p> <p>The subject consists of six lectures, two tutorials, and a program of experiments. The lectures and tutorials provide instruction on the basis of different analytical techniques, spectroscopic identification of unknown compounds and cover various aspects of chemical safety, reporting of experimental data, data and error analysis and the use of chemical databases.</p>
Objectives:	The subject aims to develop skills in the synthesis, analysis and characterisation of organic, main group and transition metal compounds. Important aspects of the training provided in this subject include the acquisition of skills needed to conduct chemical synthesis, perform a range of methods used for chemical analysis, interpret the results of spectroscopic or analytical measurements and to know the procedures that allow the safe handling of chemicals and conduct of chemical reactions
Assessment:	One short assignment not exceeding six pages based on the material developed in lectures (10%); Ongoing assessment of practical work (of technical competence, reporting and interpretative skills) in the form of approximately 20 short reports (three to four pages each) due during the semester (90%).
Prescribed Texts:	The laboratory manual for this subject
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses:

	<p># Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09)</p> <p># Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04)</p> <p># Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04)</p> <p># Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)</p> <p>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.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>Upon completion of this subject, students should have developed the following generic skills:</p> <ul style="list-style-type: none"> - the ability to use conceptual models to rationalise observations; - data recording and interpretation of scientific observations; - ability to search databases and the scientific literature; - be able to apply procedures for data and error analysis; - ability to write scientific reports; - an understanding and basic operations of modern analytical techniques; - an awareness of safe and diligent laboratory practice , including safe chemical and glassware handling, and proper instrument operation.
Notes:	<p>Students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course will receive science credit for the completion of this subject.</p> <p>A laboratory coat and safety glasses are required for laboratory activities.</p>
Related Majors/Minors/Specialisations:	Environmental Science