

CHEM10003 Chemistry 1

Credit Points:	12.5												
Level:	1 (Undergraduate)												
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. Semester 2, Parkville - Taught on campus.												
Time Commitment:	Contact Hours: 3 x one hour lectures per week, 6 x three hours of practical activities during semester, 1 x one hour tutorial/workshop session per week, 6 hours of computer aided learning during semester, 8 hours of independent learning tasks during semester. Total Time Commitment: Estimated total time commitment of 170 hours												
Prerequisites:	<p>Chemistry</p> <p>One of:</p> <ul style="list-style-type: none"> # VCE Units 3/4 Chemistry, or equivalent <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEM10007 Fundamentals of Chemistry</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>Mathematics</p> <p>One of:</p> <ul style="list-style-type: none"> # VCE Units 3/4 Mathematical Methods # VCE Units 3/4 Further Mathematics # Admission into the Bachelor of Science course # Admission into the Bachelor of Commerce course <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MAST10012 Introduction to Mathematics</td> <td>Summer Term, Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CHEM10007 Fundamentals of Chemistry	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	MAST10012 Introduction to Mathematics	Summer Term, Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:											
CHEM10007 Fundamentals of Chemistry	Semester 1	12.50											
Subject	Study Period Commencement:	Credit Points:											
MAST10012 Introduction to Mathematics	Summer Term, Semester 1	12.50											
Corequisites:	None												
Recommended Background Knowledge:	None												
Non Allowed Subjects:	None												
Core Participation Requirements:	<p><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: http://services.unimelb.edu.au/disability</p></p>												
Coordinator:	Prof Carl Schiesser, Prof Mark Rizzacasa												
Contact:	Dr Sonia Horvat												

	shorvat@unimelb.edu.au (mailto:shorvat@unimelb.edu.au)
Subject Overview:	The subject provides an introduction to stoichiometry; gases; energy and thermochemistry; chemical equilibrium; acid-base chemistry; properties of solutions, aspects of main group chemistry: structure and bonding in elements and compounds of groups 14-18; solutions and pH equilibria; physical properties of solution. intermolecular forces and extended solid state structures; structure and bonding of alkanes, alkenes and alkynes; benzene and its derivatives; functional groups; and spectroscopy and determination of structure.
Learning Outcomes:	<p>The aim of the subject is to provide students with an understanding of the place of chemistry in biology, technology and the physical environment; the nature of gases; basic energy concepts; the nature of chemical equilibria; the structure and bonding of inorganic molecules; the nature of the solid state; the structures of hydrocarbon and main group molecules; the important functional groups; the nature of techniques of measurement; and the evolution of current theories.</p> <p>In the practical component, students should develop basic laboratory skills (observation, analytical techniques, report writing); oral communication skills; independent learning skills; and an appreciation of the health and safety issues associated with the safe handling and disposal of laboratory chemicals.</p>
Assessment:	Three equally weighted 30 minute on-line tests conducted during the semester (6%) Ongoing assessment of practical work throughout the semester (20%) A three hour written examination in the examination period (74%) Satisfactory completion of practical work is necessary to pass the subject. Independent learning tasks need to be completed in order to pass the subject.
Prescribed Texts:	A. Burrows, J. Holman, A. Parsons, G. Pilling and G. Price, Chemistry3 2nd Ed, Oxford University Press, 2013.
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # 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) <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>This subject encompasses particular generic skills so that on completion of this subject students should have developed skills relating to:</p> <ul style="list-style-type: none"> # the organization of work schedules that permit appropriate preparation time for tutorials, practical classes and examinations; # the use of electronic forms of communication; # the utilisation of computer-aided learning activities to enhance understanding; # the performance of basic manipulations with laboratory equipment; # the recording of observations, the analysis of information and the interpretation of data within a laboratory setting; # accessing information from the library employing both electronic and traditional means. # working collaboratively with other students; # the use of conceptual models; # problem solving; and # critical thinking.
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.

	<p>A laboratory coat and safety glasses are required for laboratory activities.</p> <p>It is recommended that students have access to a molecular model kit.</p> <p>It is recommended that students who plan to major in Chemistry also enrol in two semesters of first year mathematics, for example MAST10005 Calculus 1, MAST10006 Calculus 2 and/or MAST10007 Linear Algebra.</p>
Related Course(s):	Bachelor of Environments
Related Majors/Minors/ Specialisations:	B-ENG Chemical Engineering stream B-ENG Chemical and Biomolecular Engineering stream Master of Engineering (Biomedical with Business) Master of Engineering (Biomedical) Science-credited subjects - new generation B-SCI and B-ENG.
Related Breadth Track(s):	Chemical Engineering