

CHEM10008 Foundation Studies in Chemistry

Credit Points:	12.50
Level:	1 (Undergraduate)
Dates & Locations:	This subject is not offered in 2014. On campus at Dookie
Time Commitment:	Contact Hours: 120 hours Total Time Commitment: 36 hours of lectures 12 hours of tutorials 18 hours of practicals 18 hours of computer-aided learning/online discussion
Prerequisites:	None
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><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> </p>
Contact:	Ms Ros Gall Dookie Campus Phone: +61 3 5833 9200
Subject Overview:	This unit is designed for students with little or no background in chemistry who wish to gain an understanding of basic chemistry. Topics covered include the nature of matter, solutions and gases, the chemical change related to equilibrium, energy and kinetics, and the nature of redox processes; and structures and functional groups of in organic molecules. In introducing the nature of matter and the chemical elements, an elementary discussion of atomic structure and the bonding of elements to form compounds is given. Further development requires a discussion of the mole concept. This leads to a study of chemical reactions, with discussions on oxidation and reduction, acids and bases, energy changes in reactions, reaction rates and chemical equilibrium, and an introduction to organic chemistry.
Learning Outcomes:	<p>This aim of this subject is to provide students with an understanding of:</p> <ul style="list-style-type: none"> # Nature of matter: elements, atoms, ion and molecules # Electronic structure of atoms and ions # Bond formation including covalent, ionic metallic, hydrogen bonding, van der Waal's; # Solubility and solution state; ions and hydration # The behaviour of gases; # The mole concept, concentrations and stoichiometry; # Acids, bases neutralisation reactions and salt formation; # Acid/base strength and the pH scale; # Energy and chemical systems; # Rates and reaction and reaction order; # Catalysis and enzymes; # Chemical equilibrium; the equilibrium, constant, Ka Kb stability constants and solubility products; # Redox reactions and redox potentials # Organic molecules: structure nomenclature and functional groups;

	<ul style="list-style-type: none"># Hydrophobicity and hydrophilicity; and# Biologically significant macromolecules
Assessment:	6 x practical reports (equivalent of up to 500 words each) (20%) Three feedback tests (45 minutes each) (30%) Three hour end of semester examination (50%) 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. Blackman, S. Bottle, S. Schmid, M. Mocerino and U. Wille, Chemistry 2nd edition, Wiley, 2012
Breadth Options:	This subject is not available as a breadth subject.
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 the subject students should have developed skills relating to:</p> <ul style="list-style-type: none"># The organisation 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 via both electronic and traditional means;# Working collaboratively with other students; and# Problem solving and critical thinking
Related Course(s):	Diploma in General Studies