

Subject name	Chemistry
Subject code	CHM
Subject type	General
Subject fee	\$20
Prerequisites	Minimum C+ Year 10 Semester 2 General Science AND Minimum C+ Year 10 Semester 2 Taster General Maths, Maths Methods and General English/Literature

Course overview

Chemistry is the study of materials and their properties and structure. Students study atomic theory, chemical bonding, and the structure and properties of elements and compounds. They explore intermolecular forces, gases, aqueous solutions, acidity and rates of reaction. They study equilibrium processes and redox reactions. They explore organic chemistry, synthesis and design to examine the characteristic chemical properties and chemical reactions displayed by different classes of organic compounds. Students develop their appreciation of chemistry and its usefulness; understanding of chemical theories, models and chemical systems; expertise in conducting scientific investigations.

Course outline

Unit 1	Unit 2	Unit 3	Unit 4
Chemical fundamentals — structure, properties and reactions <ul style="list-style-type: none"> • Properties and structure of atoms • Properties and structure of materials • Chemical reactions — reactants, products and energy change 	Molecular interactions and reactions <ul style="list-style-type: none"> • Intermolecular forces and gases • Aqueous solutions and acidity • Rates of chemical reactions 	Equilibrium, acids and redox reactions <ul style="list-style-type: none"> • Chemical equilibrium systems • Oxidation and reduction 	Structure, synthesis and design <ul style="list-style-type: none"> • Properties and structure of organic materials • Chemical synthesis and design

Assessment

In Units 1 and 2 students complete a Data Test, Student Experiment, Research Investigation and Exam. Units 1 and 2 are devised to replicate instruments used in Units 3 and 4. Assessments in Unit 1 and 2 are formative. In Units 3 and 4 students complete four summative assessments. The results from each of the assessments are added together to provide a subject score out of 100. Students will also receive an overall exit subject result from QCAA that is A-E.

Summative assessments

Unit 3		Unit 4	
Summative internal assessment 1: • Data test	10%	Summative internal assessment 3: • Research investigation	20%
Summative internal assessment 2: • Student experiment	20%		
Summative external assessment: 50% Examination			

Course requirements

Students are expected to do homework regularly to follow up class activities and to prepare for the next class. Activities would include set work, practical records, reading, making summaries and learning work. Total homework time over a period of one week should be in the vicinity of 2½ hours. Appropriate footwear is to be worn in the laboratory, i.e. shoes with impervious uppers.

Career opportunities

A course of study in Chemistry can establish a basis for further education and employment in the fields of forensic science, environmental science, engineering, medicine, pharmacy and sports science.