Chemistry T

Chemistry T

Chemistry is an essential choice if you intend to study at tertiary level in most fields of science, engineering and health sciences. Some major challenges and opportunities for Australia and the Asia-Pacific region in the 21st Century are inextricably associated with chemistry. Issues of sustainability on local, national and global levels are, and will continue to be, tackled by the application of chemical knowledge, using a range of technologies.

A Minor will give students an overview of the subject . Those preparing for tertiary studies in related areas should complete a Major.

Course Patterns

The course is sequential in Year 11 and 12. Students commencing in Year 12 will study the Year 11 units.

Minor - **Unit 1**: Chemical Fundamentals, **Unit 2**: Molecular Interactions and Reactions

Major - The above units, **Unit 3**: Equilibrium, Acids and Redox Reactions, **Unit 4**: Structure, Synthesis and Design

Prerequisites: science in years 9 and 10.

Units

Year 11

In Chemistry, students develop their understanding of chemical systems, and how models of matter and energy transfers and transformations can be used to describe, explain and predict chemical structures, properties and reactions. There are four units:

Unit 1: Chemical Fundamentals

Students use models of atomic structure and bonding to explain the macroscopic properties of materials and to predict the products and explain the energy changes associated with chemical reactions.

Unit 2: Molecular Interactions and Reactions

Students continue to develop their understanding of bonding models and the relationship between structure, properties and reactions, including consideration of the factors that affect the rate of chemical reactions.

Year 12

In Units 3 and 4, students further develop their knowledge of chemical processes introduced in Units 1 and 2, including considering energy transfers and transformations, calculations of chemical quantities, rates of reaction and chemical systems.

Unit 3: Equilibrium, Acids and Redox Reactions

Students investigate models of equilibrium in chemical systems; apply these models in the context of acids and bases and redox reactions, including electrochemical cells; and explain and predict how a range of factors affect these systems.

Unit 4: Structure, Synthesis and Design

Students use models of molecular structure, chemical reactions and energy changes to explain and apply synthesis processes, particularly with consideration of organic synthesis; and they consider current and future applications of chemical design principles.

More About Chemistry

Chemistry is the study of matter and its reactions. It provides an insight into what things are made of and how they are made. The nature of the subject ensures that practical work is an integral part of the course.

It is an enabling course which is fascinating in its own right as well as underpinning medicine, metallurgy, environmental studies, food processing, agriculture, forensics, oceanography, genetic engineering, veterinary science, conservation of art materials, wine making and many others.

The course is sequential in Year 11 and you must complete both units to obtain a minor. All four units are required to achieve a major. A major in Chemistry may entitle you to advanced standing at CIT.

Examples of people who use Chemistry in their daily lives include:

Forensic Scientists	Vets
Doctors/Nurses	Engineers
Physiotherapists	Pharmacists
Chiropractors	Geologists
Environmental Scientists	Dentists
Oceanographers	Biochemists