

# CHEMISTRY

## AIMS

To study **chemistry in context** linking fundamental chemistry to **everyday applications**.

## CONTENT

The chemistry units have been set up for study in context. Each context lasts a term or semester. (Aspley State High School has been selected to trail the new chemistry syllabus which follows the education trends adopted in NSW and Victoria)

- |            |   |
|------------|---|
| Semester 1 | Food Glorious Food (atomic and molecular structure, bonding, scientific techniques)   |
| Semester 2 | Water (properties including solvency, water quality)<br>Camping and Leisure (metals, oxidation and reduction)                           |
| Semester 3 | Camping and Leisure (fuels and materials – organic and polymer chemistry),<br>Drugs, Medicine and People (functional organic chemistry) |
| Semester 2 | Wine (chemical analysis techniques)<br>The role(s) and responsibilities of chemists   |

## SUGGESTED STANDARD IN PRIOR LEARNING.

This can be a challenging subject. Students will need to have already displayed higher than average results in Strand A Mathematics and Junior Science, to be able to cope with the subject A successful rating in Junior Science and Junior Maths. (ie sound or above)

## ASSESSMENT

The objectives of **developing and applying knowledge and conceptual understanding, scientific investigation and scientific techniques**, are linked to the assessment items for determining the student's chemistry profile. The four assessable general objectives are of equal importance. Their integration reflects the work of chemists. Therefore, practical experiences are necessary for students.

There are 3 types of assessment items which are equally weighted towards the overall rating:

### **Extended experimental investigation (EEI)**

An extended experimental investigation involves a task where the student works to answer an open-ended research question. It would be conducted over a lengthy period of time, perhaps a few weeks to a term or longer.

### **Extended Response Task (ERT)**

The Extended Response Task may require students to interpret, analyse and evaluate some stimulus material, for example, a societal or environmental issue. The response may be presented in a variety of forms such as a written assignment, report or non-written presentation.

### **Written test (WT)**

Written tests commonly include quantitative and qualitative tasks and are carried out under examination conditions.

Timing of assessment instruments:

1	WT	Late Term 1
2	ERT	Late Term 2
3	WT	End Term 3
4	EEL	End Term 4

### **RESTRICTIONS**

Students who study Chemistry may also study Physics and Biological Science or Multi-strand Science.

Possible choices are:

- Chemistry (and 5 other non-science subjects)
- Chemistry and Physics
- Chemistry and Physics and Biology
- Chemistry and Multi-strand Science

A one day excursion to the Golden Circle Company, is completed in Year 11. During this excursion, students use the Golden Circle Laboratory to perform quality assurance tests on the fruit juices.

Year 12 students also have a one day excursion and travel to the winery at Mt Nebo for some first hand experience at wine making and use the gas chromatography facilities at the University of Queensland to analyse their wine samples.

## Assessment Overview

Year 11					Assessment		
Sem	Term	Context	Time	Key Ideas	Type and number	Description	Conditions
1	1	Food Glorious Food	<b>55 hours</b>	S1 (1.1,1.2,1.3, 1.4, 1.5, 1.6) S2 (2.2, 2.3, 2.4, 2.5, 2.6 2.10) R1 (1.2 1.3) R3 (3.1, 3.2) R4 (4.1,4.2, 4.3) R5 (5.1)	1. Written Test	End of term test	Exam conditions 2 hours
1	2				2. Extended Response Task	Research and notes from the excursion to be used to answer questions.	Students provided with library time – about 2 x 70 minute lessons and attend an excursion. Supervised exam 70 minutes Notes are allowed
2	3	Water	<b>30 hours</b>	S1 (1.1, 1.2, 1.3, 1.5, 1.7) S2 (2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.10)  R1 (1.2,) R2 (2.1, 2.2) R3 (3.1, 3.2, 3.3, 3.4) R4 (4.1, 4.2, 4.3) R5 (5.1,5.3, 5.4)	3. Written Test	End of term test	Supervised exam 2 hours
2	4	Camping and Leisure (metals)	<b>25 hours</b>	S1 (1.1, 1.2, 1.3, 1.5, 1.7) S2 (2.1, 2.2, 2.5, 2.4,2.7, 2.9, 2.10) R1 (1.1) R2 (2.1, 2.2) R3 (3.2) R4 (4.1, 4.2, 4.3) R5 (5.4)	4. Extended Experimental Investigation	Electro chemical/Corrosion investigation	Students provided with library time – about 4 x 70 minute lessons. Mostly in class time for experiments and own time for writing report. Teacher monitored 6 Weeks