

# A Level Chemistry



**Exam Board:** AQA

**Entry Requirements:** grade 6 or above in Chemistry or 6/6 in Combined Science.

## Why study Chemistry?

If you enjoyed chemistry at GCSE, you'll love this A/AS level course. In two years you'll get an in-depth knowledge of this fascinating subject: chemistry develops your research, problem-solving and analytical skills and allows you to challenge ideas, use logic and step-by-step reasoning. Studying this exciting subject involves a combination of theoretical understanding and practical experiments, picking up a raft of subject-specific knowledge and transferable skills in the process. You will also find out how chemists are real innovators, designing solutions to the problems that affect modern life. This makes it a subject that's interesting and engaging to study, and one that will prepare you for a diverse array of career options.

## What does the course involve?

**Core Content:** Physical Chemistry, Inorganic Chemistry and Organic Chemistry (further details overleaf).

Paper 1	Paper 2	Paper 3
<b>What's assessed:</b> <ul style="list-style-type: none"><li>•Relevant Physical chemistry topics</li><li>•Inorganic topics</li><li>•Relevant practical skills</li></ul>	<b>What's assessed:</b> <ul style="list-style-type: none"><li>•Relevant Physical chemistry topics</li><li>•Organic chemistry</li><li>•Relevant practical skills</li></ul>	<b>What's assessed:</b> <ul style="list-style-type: none"><li>•Any content</li><li>•Any practical skills</li></ul>
<b>Method of assessment:</b> <ul style="list-style-type: none"><li>•written exam: 2 hours</li><li>• 105 marks</li><li>•35% of A-level</li></ul>	<b>Method of assessment:</b> <ul style="list-style-type: none"><li>•written exam: 2 hours</li><li>•105 marks</li><li>•35% of A-level</li></ul>	<b>Method of assessment:</b> <ul style="list-style-type: none"><li>•written exam: 2 hours</li><li>•90 marks</li><li>•30% of A-level</li></ul>
<b>Questions:</b> <ul style="list-style-type: none"><li>•105 marks – combination of short and long answer questions</li></ul>	<b>Questions:</b> <ul style="list-style-type: none"><li>•105 marks – combination of short and long answer questions</li></ul>	<b>Questions:</b> <ul style="list-style-type: none"><li>•40 marks - questions on practical technique and data analysis</li><li>•20 marks - questions testing across the specification</li><li>•30 marks - multiple choice questions</li></ul>

## Where will Chemistry lead me post Sixth Form?

A-level chemistry is a good choice for students considering careers in medicine, engineering, product development, pharmaceuticals, teaching and other STEM related fields. Chemistry also teaches excellent problem-solving skills that will leave students more than capable of handling responsibilities in numerous other sectors, however unrelated to chemistry they may seem.

For more information please contact Mr. Smith: [anthony.smith@sirthomasfremantle.org](mailto:anthony.smith@sirthomasfremantle.org)

**Subject content:**

**3.1 Physical chemistry**

3.1.1 Atomic structure

3.1.2 Amount of substance

3.1.3 Bonding

3.1.4 Energetics

3.1.5 Kinetics

3.1.6 Chemical equilibria,  
Le Chatelier's principle and  $K_c$

3.1.7 Oxidation, reduction and  
redox equations

3.1.8 Thermodynamics (A-level only)

3.1.9 Rate equations (A-level only)

3.1.10 Equilibrium constant  $K_p$   
for homogeneous systems (A-level only)

3.1.11 Electrode potentials and  
electrochemical cells (A-level only)

3.1.12 Acids and bases (A-level only)

**3.2 Inorganic chemistry**

3.2.1 Periodicity

3.2.2 Group 2, the alkaline earth metals

3.2.3 Group 7(17), the halogens

3.2.4 Properties of Period 3 elements and  
their oxides (A-level only)

3.2.5 Transition metals (A-level only)

3.2.6 Reactions of ions in aqueous  
solution (A-level only)

**3.3 Organic chemistry**

3.3.1 Introduction to organic chemistry

3.3.2 Alkanes

3.3.3 Halogenoalkanes

3.3.4 Alkenes

3.3.5 Alcohols

3.3.6 Organic analysis

3.3.7 Optical isomerism (A-level only)

3.3.8 Aldehydes and ketones (A-level only)

3.3.9 Carboxylic acids and derivatives (A-level  
only)

3.3.10 Aromatic chemistry (A-level only)

3.3.11 Amines (A-level only)

3.3.12 Polymers (A-level only)

3.3.13 Amino acids, proteins and DNA (A-  
level only)

3.3.14 Organic synthesis (A-level only)

3.3.15 Nuclear magnetic resonance  
Spectroscopy (A-level only)

3.3.16 Chromatography (A-level only)