

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

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 Miss De Aguiar or Mr. Smith:

emily.de_aguiar@sirthomasfremantle.org; 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)