



# A Level CHEMISTRY: OCR Chemistry A

## Overview

Chemistry at Cardinal Newman is a subject that offers students the opportunity to learn all aspects of chemistry, practical as well as theoretical. Students will be expected to apply their knowledge of their GCSE Chemistry course from the word go and develop the ideas they have met in it to gain a deeper understanding of elements, compounds and their reactions. Students will need to apply mathematical ideas to all aspects of this course. It is a demanding course requiring students to be fully committed to working hard and learning their work thoroughly as they go through the course. It requires a good memory, ability to apply knowledge to new situations and good mathematical ability. If you want to do medicine or any Science based course this is the A-Level choice for you!

## What do you need to join us?

You need to have achieved at least a 6-6 in GCSE Science or a 6 in GCSE Chemistry, you also require a 6 in GCSE Mathematics GCSE and at least a 4 in GCSE English then overall 5 GCSEs of 5 or above. When considering A level Chemistry it is important to realise that 20% of the final exam mark is based on mathematical skills so a sound knowledge of GCSE Mathematics is essential. You also have to be able to write in a logical, coherent and concise manner for the practical aspect of the course.

## What will the course involve?

The A-Level will be a 2 year course with all assessments at the end of the second year.

<b>Content Overview</b>	<b>Assessment Overview</b>	
Content is split into six teaching modules:	Learners must complete all components (01, 02, 03 and 04)	
<b>Module 1 – Development of practical skills in chemistry</b> Practical skills assessed in a written examination Practical skills assessed in the practical endorsement	Periodic table, elements and physical chemistry (01) 100 marks 2 hours 15 minutes written paper	<b>37%</b> of total A level
<b>Module 2 – Foundations in chemistry</b> Atoms, compounds, molecules and equations, Amount of substance, Acid-base and redox reactions Electrons, bonding and structure	Synthesis and analytical techniques (02) 100 marks 2 hours 15 minutes written paper	<b>37%</b> of total A level
<b>Module 3 – Periodic table and energy</b> The periodic table and periodicity, Group 2 and the halogens, Qualitative analysis, Enthalpy changes, Reaction rates and equilibrium (qualitative)	Unified chemistry (03) 70 marks 1 hour 30 minutes written paper	<b>26%</b> of total A level
<b>Module 4 – Core organic chemistry</b> Basic concepts, Hydrocarbons, Alcohols and halo alkanes, Organic synthesis, Analytical techniques (IR and MS)	Practical endorsement in chemistry (04)* (not an examined assessment) *The Practical Endorsement requires a minimum of 12 practical activities to be completed and passed by the end of the course.	<b>Reported separately</b>
<b>Module 5 – Physical chemistry and transition elements</b> Reaction rates and equilibrium (quantitative), pH and buffers, Enthalpy, entropy and free energy, Redox and electrode potentials, Transition elements	<b>What can I do with an A-Level Chemistry?</b> Skills and qualities gained from studying chemistry: Teamwork, Technical ability, Problem solving, Organisation, Numeracy, Communication, Attention to detail, Administration, Analytics, Discipline Chemistry can be useful in many different job families, that need degrees, such as engineering and manufacturing, science and research, as well as medicine and nursing and environmental science. There are a range of vocational qualifications and apprenticeships linked to an interest in chemistry, such as applied science/pharmaceutical science, health and social care, environmental sustainability, sports and exercise sciences, engineering, pharmacy assistant, theatre support worker, laboratory/science technician, gas installation engineer, polymer production technician.	
<b>Module 6 – Organic chemistry and analysis</b> Aromatic compounds, Carbonyl compounds, Carboxylic acids and esters, Nitrogen compounds, Polymers, Organic synthesis, Chromatography and spectroscopy (NMR)		

