



CHEMISTRY

**Gordon's
Sixth Form**

A LEVEL

What is Chemistry A Level all about?

Chemistry is a linear course that builds on concepts studied at GCSE. Many of the topics that you have studied at GCSE will be examined in far greater depth. It is a very demanding course that requires a strong desire to succeed. The assessment structure is as follows:

| A-Level Chemistry | | |
|--|--|--|
| Paper 1 | Paper 2 | Paper 3 |
| <ul style="list-style-type: none">Inorganic chemistry with relevant physical chemistryRelevant practical skills | <ul style="list-style-type: none">Organic chemistry with relevant physical chemistryRelevant practical skills | <ul style="list-style-type: none">All contentAll practical skills |
| Written exam 2 hours | Written exam 2 hours | Written exam 2 hours |
| 105 marks | 105 marks | 90 marks |
| 35% of A Level | 35% of A Level | 30% of A Level |



What prior knowledge and skills do I need?

The qualification builds on what has been developed at GCSE.

You will be expected to have achieved at least a grade 7 in GCSE Chemistry or a 7/7 in GCSE Combined Science. Mathematics is also essential, as numerical ability and mathematical skills are central to the course.

Communication is also important as you must be able to communicate effectively during practical sessions, as well as being able to research and critically evaluate problems.

Knowledge/skills gained during A Level Chemistry

- An understanding of how the chemical elements interact and the role they play in making up our world and beyond.
- The steps involved in the synthesis of organic molecules.
- The tests and processes in the identification of molecules
- The relevance of science beyond the laboratory.
- Analytical, evaluative and synoptic skills
- Practical skills, including the ability to plan and manipulate information and data.

Where can Chemistry take me?

A Level chemistry is a good choice for students considering careers in the health and clinical professions, including medicine, veterinary science, nursing, dentistry and forensic science. Studying Chemistry will also prepare students for industry careers, such as those within the pharmaceutical, chemical engineering or petrochemical sectors. Many chemistry students also go on to study economics and business since the course has so many transferrable skills such as problem solving. Earth sciences, marine biology and geology are also popular destinations. Students of chemistry are determined, logical and precise, qualities that are important to universities and prospective employers.

For more information visit the RSC:
<http://rsc.li/careers-future>



CHEMISTRY

HEAD OF DEPARTMENT

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Exam Board

AQA

Specification

7405

COURSE DETAILS

Examination

The course is examined at the end of Year 13.

Year 12

Physical chemistry: Atomic structure, Amount of substance, Bonding, Energetics, Kinetics, Chemical equilibria, Le Chatelier's principle and K_c , oxidation, reduction and redox equations.

Inorganic chemistry: Group 2 the alkaline earth metals, Group 7 the halogens, periodicity.

Organic chemistry: Introduction to organic chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic analysis.

Year 13

Physical chemistry: Thermodynamics, Acids and Bases, Electrode potentials and electrochemical cells, Rate equations, Equilibrium constant K_p for homogeneous systems.

Inorganic chemistry: Transition metals, Reactions of ions in aqueous solution, Properties of Period 3 elements and their oxides.

Organic chemistry: Optical isomerism, Aldehydes and ketones, Carboxylic acids and derivatives, Aromatic chemistry, Amines, Polymers, Amino acids, proteins and DNA, Nuclear magnetic resonance spectroscopy, Chromatography, Organic synthesis.

Over the course students complete twelve required practicals. These will be assessed in the exams and provide the evidence for the practical endorsement.

HOW WILL I BE ASSESSED?

| Exam Papers Year 13 | % of GCE | Details |
|--|------------|--|
| Paper 1: Relevant Physical chemistry topics, Inorganic chemistry and relevant practical skills. 2 hours – 105 marks | 35% | This paper is made up of 105 marks with a mixture of short and long answer questions. |
| Paper 2: Relevant Physical chemistry topics, Organic chemistry and relevant practical skills. 2 hours – 105 marks | 35% | This paper is made up of 105 marks with a mixture of short and long answer questions. |
| Paper 3: Any content, any practical skills. 2 hours – 90 marks | 30% | 40 marks of questions on practical techniques and data analysis, 20 marks of questions testing across the specification and 30 marks of multiple choice questions. |

WIDER READING

- Why Chemical Reactions Happen, James Keeler
- The Disappearing Spoon...and other true tales from the Periodic Table by Sam Kean
- The Shocking History of Phosphorus: A Biography of the Devil's Element, John Emsley



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