Chemistry

A LEVEL - OCR

What are the aims of the course?

We aim to provide a rich, interactive course that helps students develop theoretical and practical skills designed to provide a solid grounding for studying Chemistry at University. Students will be challenged to gain technical skills that help them to analyse experimental data and explore both traditional and modern theoretical concepts.

What does it involve?

Students are taught practical skills integrated with theoretical subjects and are examined externally at the end of the course.

The two year course is comprised of 6 topics. The topics are:

1. Development of Practical Skills in Chemistry
2. Foundations in Chemistry - This unit includes key ideas and concepts, such as; moles, atomic structure, bonding and acids. It is the bridge GCSE students must cross into AS level and deepens their understanding of familiar concepts
3. The Periodic Table and Energy – This unit includes key ideas in inorganic and physical Chemistry such as the periodic table and its trends, enthalpy changes, kinetics, equilibria and sustainability
4. Core Organic Chemistry – This unit aims to extend students' GCSE work and introduce the organic world. Students will study functional groups such as alcohols, haloalkanes, alipathic hydrocarbons and the modern analytical technology used to investigate them
5. Physical Chemistry and the Transition Elements – This unit builds upon and extends the physical inorganic Chemistry studied in AS and aims to deepen students understanding of topics such as : Redox reactions, kinetics and reaction rates, the transition elements, entropy and free energy
6. Organic Chemistry and Analysis – This unit aims to build on unit 4 and students will study a wider, more complex range of organic families and analytical techniques

How is it assessed?

A Level students will sit three papers:

Paper 1
Periodic table, elements and physical chemistry
2 hours 15 minutes
100 marks
37% of A Level

Paper 2
Synthesis and analytical techniques
2 hours 15 minutes
100 marks
37% of A Level

Paper 3
Unified chemistry
1 hour 30 minutes
70 marks
26% of A Level

Structured questions and extended response questions, covering theory and practical skills.

Are there any specific entry requirements?

While there are no specific entry requirements, historically, students who study IGCSE/GCSE Chemistry will have the optimum chance of success. Students who study Science double award and attain A*/A/B will also have a good chance of success.

Why is it a useful qualification?

To study Chemistry is to study the world in which we live. This central science is essential for future medical doctors, dentists and vets. It is fundamental to forensic science and environmental science, and opens doors to more science courses at university than any other subject. Chemical engineers are in demand all over the world, and are the highest paid of all UK engineers. It contains significant transferable skills that will help all students with their studies in higher education whether they choose to study Chemistry or anything else.