A LEVEL CHEMISTRY

DIXONS SIXTH FORM ACADEMY

What is Chemistry?

Chemistry is the study of how substances behave: how and why they combine or separate to form other substances, and how matter interacts with energy. Chemistry is part of every process that happens in our lives, from growing and cooking food to cleaning our homes and healing our bodies.

Why students choose this course

Students who like to find out how things work and why things happen enjoy A level Chemistry. Chemistry enables students to enter a vast array of professional fields that have a big impact on the world around us, for example:

- Environmental chemistry - using chemical reactions in the soil, water and air to help ensure global access to clean water and manage the impacts of climate change
- Agricultural and food chemistry - ensuring global access to high quality, safe food
- Chemical engineering - researching, developing and operating the processes that manufacture the ingredients for nearly every product we use

What the course covers

Each year of the course includes practical work and theoretical content from the fields of Physical Chemistry (how matter and energy interact); Organic Chemistry (the molecules that make up living organisms) and Inorganic Chemistry (the reactions of substances that don't contain carbon).

Year 1

- **Physical Chemistry:** atomic structure, amount of substance, bonding, energetics, kinetics and chemical equilibria
- **Inorganic Chemistry:** periodicity, Group 2 (alkaline earth metals) and Group 7 (halogens)
- **Organic Chemistry:** alkanes, halogenoalkanes, alkenes, alcohols and organic analysis

Year 2

- **Physical Chemistry:** thermodynamics, rate equations, equilibrium, electrochemistry and acids and bases
- **Inorganic Chemistry:** Period 3 elements, transition metals, reactions of ions in aqueous solution
- **Organic Chemistry:** isomers, carbonyls, amines, arenes, polymers, amino acids, DNA, synthesis and analysis

The complete specification can be viewed on the AQA website: www.aqa.org.uk

What students can do with this course

An A Level in Chemistry is a highly respected and useful qualification for higher education and employment in a wide range of areas.

Apart from studying chemistry at University, many other avenues will be open to you: engineering, law, journalism, veterinary science, accountancy, teaching, medicine, medical chemistry, biochemistry, colour chemistry, food science and forensic science, to name but a few.

How this course is assessed

This course is assessed 100% by examination at the end of the course. Students sit three two-hour examinations, each of which tests elements of physical, organic and inorganic chemistry and relevant practical skills.

Practical skills are also separately assessed throughout the course, leading to the Practical Endorsement qualification that is awarded alongside the A level and demonstrates to universities that candidates are ready to conduct competent practical work as part of their learning and research at undergraduate level.

Entry requirements

All our course entry requirements are detailed in the Entry Requirements document located in the admissions section of our website.

Further Reading

For information on careers linked to Chemistry: https://successatschool.org/advicedetails/190/Why-Study-Chemistry%3F
For notes and examples relevant to AQA A level Chemistry: http://www.a-levelchemistry.co.uk/aqa-a-level-chemistry.html

Student Profile:

Before Sixth Form, Hamid was a student at Co-op Academy Grange. At Dixons Sixth Form, he studied A Levels in Maths, Chemistry and Biology and gained grades A*AB. He left us to read Chemical Engineering at Nottingham University.

> **I loved chemistry because of how the structure and bonding of many compounds dictates its application in everyday life. How chemistry helped me is that the teachers helped me realise my passion for chemistry and how chemistry can be used in mathematical model. I wanted to do chemical engineering because of my love for chemistry and maths and how I could use the theory in engineering problems.**