

# Chemistry

## A Level



### Overview

Considered to be one of the more challenging A Levels, Chemistry is a problem-solving subject. Students will study the role Chemists play in a variety of relevant and current technologies, such as the development of new medicines and materials, climate change and alternative fuels.

Students will enjoy developing their expertise in a wide range of experimental techniques. Practical experiments are a key feature of the course.

### What goes well with this course?

- Mathematics
- Physics
- Biology
- Languages

- English
- Psychology
- PE
- Geography
- Economics

### Progression

A Level Chemistry is essential for a variety of different degree courses, including: Chemistry, Biochemistry, Medicine, Dentistry and Veterinary Science. It is a preferred A Level for most science degree level courses such as: Forensics, Environmental Science and any Biomedical Sciences, and for many other university courses including Sports Science. A Level Chemistry is well regarded by employers as it demonstrates ability to analyse information, make reasoned judgements and think creatively.

## Course Content

- Atomic structure, the way atoms bond together to make all the materials in the universe
- Industrial processes to produce everyday chemical products, such as fuels and polymers
- Developments in Chemistry which brought together the periodic table as we know it today
- The synthesis of pharmaceutical chemicals including practical methods of reflux, distillation and thin layer chromatography
- The qualitative analysis of chemicals using precipitation reactions and other chemical tests
- The quantitative analysis of substances using titrations and melting point analysis
- Infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectroscopy to elucidate structures of chemicals

## Educational Experiences

### Course Specific Trips, Visits & Experiences

Chemistry A Level students have the opportunity to take part in a variety of course related experiences. In recent years, these have included:

- The opportunity to apply for a Nuffield Science placement
- A visit to Sussex University to work in the laboratories, experience university life and learn about advanced analytical techniques
- A visit to the Chemistry Live or Chemistry in Action conference

## Assessment

This course is assessed by written examinations covering theory and practical knowledge. Practical competency is also assessed as part of the A Level course.

The exam board for this A Level is OCR B (Salters).

## Entry Requirements

All students need to have at least five GCSEs at Grade 4 or above (and a satisfactory school reference) in order to be accepted on an A Level/BTEC Level 3 Programme.

In addition, students should meet the following minimum GCSE requirements:

- Grade 6 in Maths (Higher Tier) and 6 in Chemistry or 6,6 in Combined Science

Students will do well on this course if they:

- Are interested in the Chemistry of the world around them
- Can work independently and to deadlines
- Can solve and rearrange mathematical equations and use graphs
- Can extract information from new sources
- Are organised, hard working and want to solve problems rather than be given all the answers

Mathematics is a core part of the course, so students should be confident working with numbers and using formulae in calculations.