



Chemistry (OCR)

Chemistry A (OCR)

Chemistry deals with an atomic and molecular interpretation of the world around us. It is often called the 'Central Science' because it underpins all other branches of science. Chemistry ties together fundamental concepts from fields such as mathematics, physics, biology, engineering, medicine and environmental science and plays an important role in the development of technology and other forces that change our lives!

The course contains elements of the traditional areas of organic, inorganic and physical chemistry, along with a continuing process of assessment of practical skills.

Organic Chemistry

The content of organic chemistry revolves around the structure of molecules containing carbon, and the reactions thereof. At the end of a Chemistry A-level, you will be able to recognise and draw chemical structures, determine the reactions that those molecules undergo, and design a synthetic route to produce a desired chemical product. You will also be able to explain how reactions happen using reaction mechanisms, and how reactions can be complicated by factors such as isomerism.

Inorganic Chemistry

The content of inorganic chemistry largely concentrates on the reactions of elements, acids and transition metals. After your A-level, you will be able to describe electronic structures of elements and compounds, and explain how these affect the structure, geometry and properties of substances. You will be able to perform many different calculations including moles and acids, and you will be able to explain how buffer solutions maintain a pH balance.

Physical Chemistry

The content of physical chemistry is mainly mathematical and analytical. At the end of the course, you will be able to explain how chemists analyse and identify substances using a combination of techniques such as NMR, and you will be able to calculate rates of reaction, and explain factors that affect it. You will also be able to explain dynamic equilibrium, and how the chemical industry control reversible reactions.

Teaching and Assessment

In order to be a successful A-level chemist, you need to be highly organised and motivated from the beginning of the course. The Chemistry department run independent study sessions every week, along with peer working groups involving Year 13 students.

The examinations for Chemistry take place in May and June. The A-level is assessed in three exams at the end of the two years. Along with an A-level grade, students may also achieve a Practical Endorsement, by the development of practical skills through the use of a core selection of experiments and investigations, as well as part of the examinations.

The Future

A Chemistry-based qualification gives you an excellent qualification for a wide career choice within science, industry or commerce. A Chemistry qualification shows that you are numerate, analytical, and practical and have good problem solving, presentation and communication skills. Jobs are to be found in small, medium and multinational chemical companies as well as in business, banking, accountancy, law, marketing, advertising, teaching, and the IT sector.



Independent Learning

Independent learning tasks in Chemistry

<p>1. After each lesson review your lesson notes and make a note of anything that you don't understand so that you can ask about this in the next lesson. Locate and read the relevant material in the OCR textbook. Add anything extra or interesting to the notes in your exercise book and complete the end-of-spread questions.</p>	
<p>2. Regularly attend independent study sessions, which are a chance to work through your own material at your own pace whilst in the presence of the Chemistry staff who can help and support.</p>	
<p>3. If you are given a Year 13 student in a working group, use them. They have the most recent experience of your A-level, and understand what you are going through. They need to know all the material that you do, so it is a perfect opportunity to work together and for you to ask questions.</p>	
<p>4. Regularly use chemistry revision sites (suggestions below), locate the pages relevant to the material that you have been covering in lessons. Add any extra or interesting information to your notes.</p> <ul style="list-style-type: none">• www.chemguide.co.uk• http://www.revision-notes.co.uk/A_Level/Chemistry/index.html• http://www.docbrown.info/• www.chemsheets.co.uk	
<p>5. Use the reference materials in the school and departmental libraries to develop your knowledge and keep up to date with the latest Chemistry news by reading:</p> <ul style="list-style-type: none">• Chemistry Review• New Scientist• Catalyst	
<p>6. During exam periods, past paper questions with mark schemes are made available on Bloodle – work through these questions to test your knowledge and critically assess your work using the mark schemes. This is the most effective way of progressing quickly and identifying exactly where you strengths are, and where you need to concentrate.</p>	