Chemistry

COURSE OVERVIEW

Chemistry is the study of chemical reactions and the properties of materials. Physical chemistry includes topics such as reaction rates, dynamic equilibria and enthalpy which describe the behaviour of chemical reactions. Organic chemistry covers the properties and reactions of substances based on carbon, such as alkenes and alcohols. Practical work is an important component of the course and a stand-alone certificate in practical skills can be awarded.

KNOWLEDGE & SKILLS DEVELOPED

Chemistry students develop skills in areas such as: problem solving, numeracy, analytical skills and communication.
Throughout the course students will also have opportunity to learn, practise and demonstrate a range of practical skills. As well as helping with the understanding and learning of physics concepts these practical opportunities will also help students gain a deeper understanding of the process of scientific enquiry and improve teamwork skills.

In year 12, some of the following topics are studied:
Electron structure
Enthalpy
Redox reactions
Reaction rates
Acids, bases, titrations
Core organic chemistry
Spectroscopy
In year 13, some of the following topics are studied:
Acids and buffers
Transition metals
Entropy
Aromatic chemistry
Carboxylic acids
Amines

"The practical work is great fun"

"Chemistry is difficult but very rewarding"

"The teachers are very supportive"

Qualification: **A-Level**

Awarding Body: **OCR**

ASSESSMENT METHOD

This course is linear and will be assessed through three exam papers at the end of the second year. There is a mixture of multiple choice, short answer and long answer questions. Each exam provides an opportunity for students to:

- Demonstrate knowledge and understanding
- Apply knowledge
- Analyse, interpret and evaluate scientific information

Paper one covers Physical chemistry and Inorganic chemistry. Paper two covers Organic chemistry. Paper three is a synoptic paper, covering theory and application from all areas, often linking them. All 3 papers examine knowledge of practical chemistry and application of mathematical skills in chemistry.

OPPORTUNITIES AND CAREERS

After gaining an A level in Chemistry there are many options open to you. You could apply to do a Chemistry degree at University or use your Chemistry to support your application to study for any other degree.

You could go on to work in science-based industry such as chemical engineering, medicinal chemistry or biotechnology.

Chemistry is an essential qualification for medicine, veterinary science, pharmacy and environmental science. It is also a well-respected subject in its own right and suitable for entry into a wide range of professions.

Chemistry is a much sought-after qualification. It shows that you have an active, analytical mind and this is what employers are looking for.