CHEMISTRY

Qualification: A-Level | Exam board: OCR

THE BEDFORD SIXTH FORM

SUBJECT OVERVIEW

The study of chemistry is important for understanding numerous processes that occur on the planet, whether this is inside the earth, in the atmosphere or in biological organisms.

During this course you will study the theoretical background as to why chemical reactions occur, why different materials possess their particular properties, structure of the atom, significance of the arrangement of electrons and the importance of the periodic table in predicting properties.

We look at different types of molecule and their various reactions, and factors affecting how and why reactions occur. The subject develops essential practical competences that are useful in a future scientific career.

A-Level Chemistry is a fascinating course that will provide you with an opportunity to study the aspects of how and why chemical reactions occur.

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YEAR ONE COURSE CONTENT

The first year will consist of four modules. One of the modules will focus on practical skills development. The first module lays the foundations of chemistry that forms an essential bridge with your prior study of chemistry. It comprises the basic concepts and ideas that recur throughout the subject.

These include:

- Atomic structure and reactions
- Electrons, bonding and structure
- Quantitative chemistry: formulae, amount of substance and "the mole"

The second and third modules feature a more detailed study of inorganic, organic chemistry and physical chemistry. Topics range from the periodic table to rates of reaction and instrumental analytical techniques. The emphasis concerns industrial processes, applications to everyday life, environmental concerns associated with energy and sustainability.

YEAR TWO COURSE CONTENT

The second year consists of two modules embedded with further laboratory based practical skills. One module will cover the organic chemistry of aromatic, carbonyl, acid and amino compounds. It also encompasses polymers and further analytical methods such as nuclear magnetic resonance spectroscopy.

The second module will feature a mixture of inorganic and physical chemistry. This includes the quantitative treatment of rates, equilibrium and pH, alongside the applied use of REDOX and energy change of reactions. day long biology conference in London. As in the first year, six internally assessed practicals will be undertaken which will form part of the terminal examination.

WHAT DOES THIS COURSE PREPARE ME FOR?

You could progress on to a laboratory-based position in a science organisation, an industry-based apprenticeship, or university course in chemistry, applied chemistry, applied science or chemical engineering.

A-Level Chemistry is required as an entrance for most health sciences higher education courses such as medicine, veterinary science, dentistry, biomedical sciences and pharmacy.

COURSE SUPPORT AND ENRICHMENT

A-Level Chemistry is a fascinating subject that will provide you with an opportunity to study the aspects of how and why chemical reactions occur. It builds upon basic chemistry principles to enable you to develop a logical understanding of all the factors that govern reactions. Students who wish to pursue a career in physical science or medicine will almost certainly require this qualification to enable them to progress on to university.

There is a significant amount of theoretical and mathematical content which could be daunting for some at first but is a great intellectual challenge for many. The practical activities allow both consolidation of theoretical principles and the development of essential skills that are a prerequisite for further scientific study.

ASSESSMENT

There will be two written exams at the end of the first year which determine the grade of the AS qualification. This grade however, does not count towards the overall full A-Level qualification.

Instead, three further written exams are taken at the end of the second year and only these count towards the final A-Level grade. Students must also complete a series of practical tasks to demonstrate their competence in fundamental scientific practical skills. These tasks are not graded but must be completed and recorded – and earn a 'Practical Endorsement' statement alongside the final grade.

As well as these external assessments, you will be regularly assessed by your teachers throughout the year to ensure you are performing to your potential.

Students who succeed on this course are:

- Inquisitive
- Practical
- Methodical
- A creative thinker
- Scientifically minded
- Conscientious.

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