CHEMISTRY (AQA)

Subject specific entry requirements: Chemistry B or Science (double) BB

General Content

Topic 1: Atomic structure and the Periodic Table
Topic 2: Bonding and Structure
Topic 3: Redox I
Topic 4: Inorganic Chemistry and the Periodic Table
Topic 5: Formulae, Equations and Amounts of Substance
Topic 6: Organic Chemistry I
Topic 7: Modern Analytical Techniques I
Topic 8: Energetics I
Topic 9: Kinetics I
Topic 10: Equilibrium I
Topic 11: Equilibrium II
Topic 12: Acid-base Equilibria
Topic 13: Energetics II
Topic 14: Redox II
Topic 15: Transition Metals
Topic 16: Kinetics II
Topic 17: Organic Chemistry II
Topic 18: Organic Chemistry III
Topic 19: Modern Analytical Techniques II

Skills

A GCE in Chemistry allows you to develop a range of generic skills requested by both employers and universities. For instance, a successful GCE level chemist will be an effective problem-solver and be able to communicate efficiently both orally and with the written word. Handling data will be a key part of your work, allowing you to demonstrate information retrieval skills as well as use of numeracy and ICT. You will build up a range of practical skills that require creativity and accuracy as well as developing a firm understanding of health and safety issues. As chemistry is a subject in which much learning stems from experimental work it is likely that you will need to work effectively as part of a group, developing team participation and leadership skills. As you become more skilled you will take responsibility for selecting appropriate qualitative and quantitative methods, recording your observations and findings accurately and precisely as well as critically analysing and evaluating the methodology, results and impact of your own and others' experimental and investigative activities.

Methods of Assessment

A-level
Overall, a minimum of 20% of the marks across the three papers will be awarded for mathematics.

Paper 1: Advanced Inorganic and Physical Chemistry

- Questions draw on content from topics 1–15
- The assessment is 1 hour 45 minutes
- 30% of the total qualification

Paper 2: Advanced Organic and Physical Chemistry

- Questions draw on content from topics 1–10 and topics 16–19
- The assessment is 1 hour 45 minutes
- 30% of the total qualification

Paper 3: General and practical principles in Chemistry

- Questions draw on content from topics 1–19
- The assessment is 2 hours 30 minutes
- 40% of the total qualification

Science Practical Endorsement (only A-level)
This qualification will give students opportunities to use relevant apparatus and techniques to develop and demonstrate specific practical skills. These skills must be assessed through a minimum of 12 identified practical activities within each qualification. The assessment outcomes will be reported separately on students' certificates as either 'pass' or 'fail'. To achieve a pass, students must demonstrate that they are competent in all of the practical skills listed in the subject content requirements for chemistry. Students must show practical competency by completing a number of core practical's throughout the course.

AS level
Paper 1: Core Inorganic and Physical Chemistry

- Questions draw on content from topics 1–5
- The assessment is 1 hour 30 minutes
- 50% of the total qualification

Paper 2: Core Organic and Physical Chemistry

- Questions draw on content from topic 2 and topics 5–10
- The assessment is 1 hour 30 minutes
- 50% of the total qualification

At AS there is no practical endorsement.

Key features of study

- Practical work forms an important part of the course, students generally working in pairs
- Textbook theory work
- Mathematical calculations associated with Physical chemistry
- Devising Organic Chemistry synthetic routes
- Learning about the elements, their physical and Chemical properties

Aptitudes required

AS or A level Chemistry is suitable if you:

- want to gain essential knowledge and understanding of different areas of the subject and how they relate to each other
- have a deep appreciation of the skills, knowledge and understanding of scientific methods
- have competence and confidence in a variety of practical, mathematical and problem solving skills
- have interest in and enthusiasm for the subject, including developing an interest in further study and careers associated with the subject
- want an understanding of how society makes decisions about scientific issues

Work-load and types of work

Set work takes the form of regular (10-day) written assignments throughout the course to allow effective time management and assessment of progress. In addition you will be expected to write up experiments and complete class notes using the textbook.

An average of five hours per week would be expected outside of lessons.

Career connections

Chemistry is a useful subject to consider if you are interested in a career or degree course in many areas of science, and essential for careers in medicine, dentistry and pharmacy.

The skills associated with good chemistry graduates are also sought after by financial institutions and various other areas of commerce and industry.