

Chemistry (Higher)

What are the aims of this course?

The purpose of the Course is to develop learners' curiosity, interest and enthusiasm for chemistry in a range of contexts. The skills of scientific enquiry and investigation are developed throughout the Course and the relevance of chemistry is highlighted by the study of the applications of chemistry in everyday contexts. This will enable learners to become scientifically literate citizens able to review the science-based claims they will meet. Through application of a detailed knowledge and understanding of chemical concepts, in practical situations, learners are able to develop an appreciation of the impact of chemistry on their everyday lives. The course offers a broad, versatile and adaptable skills set which is valued in the workplace and forms the basis for progress onto study of chemistry at an even higher level, while also providing a knowledge base useful in the study of all of the sciences.

What are the recommended entry levels for Higher Chemistry?

National 5 pass (grade A or B) in Chemistry and minimum National 5 pass in Mathematics.

What content is included in this course?

The course is made of 4 units of study:

1. **Chemical Changes and Structure** – Reaction rates, Periodic trends, Collision theory, Catalysis, Electronegativity and Bonding.
2. **Nature's Chemistry** – Chemistry of food, Everyday Consumer products, Soaps, Fragrances, Proteins, Alcohols and Esters.
3. **Chemistry in Society** – Industrial production, Analytical analysis, Dynamic equilibrium and Enthalpy changes.
4. **Researching Chemistry** – Learners will research the relevance of chemical theory to everyday life by exploring the chemistry behind a topical issue.

What skills will I develop?

Pupils will develop and improve their problem solving, data handling, literacy and practical skills. Communication and organisational skills will also be enhanced. Group work will develop social skills.

In addition to developing the skill of problem solving, the *Researching Chemistry* unit is a skills development unit equipping candidates with the investigative and reporting skills demanded by employers and Further and Higher Education. It will involve web-based research and open-ended investigative work.

What learning and teaching approaches will I experience?

A variety of teaching and learning approaches are used throughout the course including individual pupil work, group work and whole class work. Practical work is a major part of the course and pupils will be given the opportunity to carry out experiments and use their analytical chemistry skills to determine the purity of reagents and products and to analyse unknown substances.

How will I be assessed?

Each of the units is assessed by a short written test (UA) and a practical experiment report. At the end of each unit there will be an extension test or prelim exam to prepare pupils for the final examination. The course is graded based upon the results of an external examination and an assignment. The external exam will last 3 hours and be a combination of multiple choice, extended response and open style questions which assess both knowledge and skills. The assignment is a written report based upon research into a chosen area of the course.

What are the homework requirements?

You should expect written homework once a week. Homework will include simple revision questions; past paper questions and reading over the day's work. Pupils who are aiming for a top grade will be expected to complete extensive revision out with class.

What are the possible progression routes?

To Advanced Higher, and then on to HNC, HND or degree level study in Chemistry, Biochemistry, Dentistry, Chemical Engineering, Medicine etc.