

CHEMISTRY: ADVANCED HIGHER

Why Chemistry?

This course provides insight into the underlying theories of Chemistry and develops the practical skills used in a chemical laboratory.

The study of chemistry at this level can make a major contribution to your knowledge and understanding of the natural and physical environment. You will have the opportunity to develop the skills of independent study and thought that are essential in a wide range of subjects and occupations.

Advanced Higher Chemistry is particularly relevant if you wish to progress to degree courses, either in chemistry, or in subjects of which chemistry is a major component, such as medicine, veterinary medicine, and chemical engineering or environmental science. The course also provides a sound basis for direct entry to chemistry related employment.

Entry to the course

This is at the discretion of the school but you would normally be expected to have achieved one of the following

- Higher Chemistry at Grade C or above.

Course outline

The course consists of three units.

Inorganic and Physical Chemistry (Advanced Higher)

In this unit you will develop knowledge and understanding, problem solving skills and practical abilities in the contexts of

- How electromagnetic radiation is used in atomic spectroscopy
- The concept of atomic structure
- Electron pair theory
- Physical and chemical properties of transition metals and their compounds.
- The quantitative component of chemical equilibria.
- The factors which influence the feasibility of chemical reactions.
- Understanding of reaction kinetics.

Organic Chemistry and Instrumental Analysis (Advanced Higher)

In this unit you will develop knowledge and understanding, problem solving skills and practical abilities in the contexts of

- Organic compounds, including aromatics and amines
- Organic reaction types and mechanisms
- Synthesis of organic chemicals
- Origin of colour in organic compounds
- How elemental analysis and spectroscopic techniques are used to verify chemical structure
- They will study the use of medicines in conjunction with the interactions of the drugs.

Researching Chemistry (Advanced Higher)

In this unit you will develop knowledge and understanding, problem solving skills and practical abilities in the contexts of

- Stoichiometric calculations, to develop practical skills and to carry out research in chemistry.
- A variety of different practical techniques, including the related calculations. Equipped with the knowledge of chemistry apparatus, techniques and an understanding of concepts,
- Learners will identify, research, plan and safely carry out a chemistry practical investigation of their choice. The Unit will equip learners with the scientific background and skills necessary to analyse scientific articles and use them in order to make informed choices and decisions.

Assessment

To gain the award you must complete the units which are internally assessed by your teacher/lecturer in accordance with SQA guidelines.

The course is assessed by an external examination, set and marked by the SQA. The investigation report is also externally assessed.

Course assessment structure

Component 1 — question paper 100 marks

Component 2 — project 30 marks

Total marks 130 marks

Progression

Successful completion of this course may lead to:

Education (HNC/HND/Degree) or Employment in

- Animals, Land & Environment
- Health & Medicine
- Manufacturing Industries
- Science & Mathematics
- Security & Protective Services
- Sports & Leisure

Further advice and information on these options is available from your Subject Teacher, Home Area Principal Teacher and Careers Adviser.