

National 4 Chemistry (Course Code: C713 74)

SCQF Level 4 (24 Credit Points)

Why study Chemistry?

Chemistry is vital to everyday life and allows us to understand and shape the world in which we live. You will learn about the applications of chemistry in everyday contexts such as medicine, energy and industry, as well as its impact on the environment and sustainability. You will learn how to think creatively and independently, and analyse and solve problems.

Career Pathways

To see what career areas this subject could lead to and the routes to get there, download and view these career pathways:

[Animals, Land and Environment](#)

[Engineering](#)

[Health and Medicine](#)

[Manufacturing Industries](#)

[Science and Maths](#)

[Uniformed and Security Services](#)

What do I need to get in?

Entry is at the discretion of the school or college but you would normally have achieved:

- **National 3 Chemistry**
- **National 3 Biology**
- **National 3 Environmental Science**
- **National 3 Physics**
- **National 3 Science**

What will I study?

You will learn about how we use the Earth's resources, the chemistry of everyday products and environmental analysis. You will find out how chemistry affects our environment and our everyday lives. This will help you to make your own decisions on contemporary issues where scientific knowledge is constantly developing.

The course has **three** compulsory units, plus an **added value** unit that assesses your practical skills.

Chemical Changes and Structure (6 SCQF credit points)

In this unit you will:

- develop scientific skills and knowledge of chemical reactions in our world
- investigate rates of reaction, energy changes of chemical reaction, and the reactions of acids and bases and their impact on the environment
- work towards the concept of chemical equations, focused on these chemical reactions
- research atomic structure and bonding related to properties of materials.

Nature's Chemistry (6 SCQF credit points)

In this unit you will:

- research the Earth's rich supply of natural resources used by each and every one of us
- investigate how fossil fuels are extracted and processed for use, including the chemistry of using fuels and their effect on the environment
- explore plants as a source of fuels, carbohydrates and consumer products
- find out how chemists use plants in the development of everyday products.

Chemistry in Society (6 SCQF credit points)

In this unit you will:

- investigate the chemical reactions, properties and applications of metal and alloys, including the chemistry of metals in chemical cells
- compare and contrast the properties and applications of plastics and new materials
- investigate the use of fertilisers, the formation of elements, and the presence of background radiation
- research the use of chemical analysis for monitoring the environment.

Added Value Unit: Chemistry Assignment (6 SCQF credit points)

In this unit you will:

- carry out an investigation using the skills and knowledge you developed in the other three units
- investigate a topical issue in Chemistry from a selection
- produce a written summary of the research to present your findings.

How will I be assessed?

Your work will be assessed by your teacher on an ongoing basis throughout the course. Items of work might include:

- practical work - such as practical experiments
- written work - research assignments and reports
- projects

- class-based exams.

You must pass all the units including the practical unit to gain the course qualification.

Study Materials

What can I go on to next?

If you complete the course successfully, it may lead to:

- **National 5 Chemistry**
- **National 5 Environmental Science**

Further study, training or employment in:

- Chemical and Materials Engineering
- Chemistry and Materials Science
- Engineering
- Health and Medicine
- Manufacturing Industries
- Science and Mathematics