National 4 Physics (Course Code: C757 74)

SCQF Level 4 (24 Credit Points)

Why study Physics?

This course is designed to increase your knowledge and understanding of the concepts of Physics and its many applications in modern society. It provides the opportunity to develop skills necessary to find solutions to scientific problems, such as experimenting, investigating and analysing, and gives a deeper insight into the structure of the subject. The course makes a valuable contribution to your general education and provides a sound basis for further study.

The skills you learn on this course are valuable for careers in medicine, energy, industry, material development, the environment and sustainability.

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

Computing and ICT

Construction

Engineering

Health and Medicine

Science and Maths

Teaching and Classroom Support

Transport and Distribution

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 one of the following:

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

What will I study?

From the sources of the energy we use to the exploration of space, advances in Physics mean that our view of what is possible is continually progressing. You will have the opportunity to design and carry out experiments and investigations to help you understand the role of Physics in scientific issues and in our lives.

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

Electricity and Energy (6 SCQF credit points)

In this unit you will:

- explore the applications of electricity and energy, and the effects of these applications on society and the environment
- learn about the key areas of generation of electricity, electrical power, electromagnetism, practical electrical and electronic circuits, gas laws and the kinetic model.

Waves and Radiation (6 SCQF credit points)

In this unit you will:

- explore the applications of waves and radiation and the implications for society and the environment
- investigate the key areas of wave characteristics, sound, electromagnetic spectrum and nuclear radiation.

Dynamics and Space (6 SCQF credit points)

In this unit you will:

- consider the applications of dynamics and space and the implications on society and the environment
- investigate the key areas of speed and acceleration, relationships between forces, motion and energy, satellites and cosmology.

Added Value Unit: Physics 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, on an unfamiliar and/or integrated context
- produce a written summary of the research and produce the evidence of your research.

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 Physics**

Further study, training or employment in:

- Animals, Land and Environment
- Computing and ICT
- Construction
- Engineering
- Health and Medicine
- Science and Mathematics
- Teaching and Classroom Support
- Transport and Distribution
- Uniformed and Security Services