

PHYSICS (National 4)

What are the aims of this course?

The course gives learners an insight into the underlying nature of our world and its place in the universe. From the sources of the power we use, to the exploration of space, it covers a range of applications of the relationships that have been discovered through experiment and calculation, including those used in modern technology. Learners will recognise the impact physics makes on their lives, the environment and society.

What will I be learning about in this course?

The course has three units:

- § **Electricity and Energy**- Generation of electricity, electrical power, electromagnetism, practical electrical and electronic circuits, gas laws and the kinetic model.
- § **Waves and Radiations**- Wave characteristics, sound, electromagnetic spectrum, nuclear radiation
- § **Dynamics and Space**- Speed and acceleration, forces, motion and energy, satellites, cosmology

What skills I develop?

Knowledge and understanding of physics, scientific research/enquiry skills, scientific analytical thinking skills (including selecting and processing information ,carrying out experiments) and explaining the impact of applications to society/the environment.

What learning and teaching approaches will I experience?

This course has practical and experiential learning opportunities, with a strong skills-based approach to learning. It takes account of the needs of all learners and provides sufficient flexibility to enable learners to learn in different ways.

How will I be assessed?

Each of the component units will be assessed by a short written test.

In addition, at least one practical investigation will be written up describing the experiment undertaken and results obtained. There is also an Added Value unit assignment which involves researching a relevant topic and writing a report to show their findings. There is no external examination in National 4 Physics.

What are the homework requirements?

In addition to reading over their notes, pupils will be expected to complete a series of questions, on a fortnightly basis, to check their knowledge and understanding.

What are the possible progression routes?

This course or its components may provide progression to:

- National 5 in another science subject
- Skills for Work Courses (SCQF level 5)
- National Certificate Group Awards
- National Progression Awards (SCQF level 5)
- Employment