

Why Physics?

Physics is the most basic and fundamental science. You will learn how Physics is applied in society and the environment. From curing disease to developing sustainable energy solutions, Physics leads to discoveries that change our lives. Physicists are problem solvers. The ability to think 'outside the box' makes people who have studied physics desirable in many career areas including all branches of engineering, telecommunications, clinical science, medicine, computer science, astronomy and renewable energy.

Course Outline

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.

PHYSICS NATIONAL 4

Details of Course Components

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

Physics: Electricity and Energy

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.

Physics: Waves and Radiation

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.

Physics: Dynamics and Space

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

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 physics from a selection
- produce a written summary of the research and development ideas that inspired your work.

Assessment

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.

A National 4 course award is achieved by passing all the units including as well as completing the Added Value Unit.



FACULTY OF SCIENCE

Biology Staff :

Mr Alan Stickle, Miss Rowan Cannell,
Miss Sue Rodwell

Chemistry Staff:

Mr Stephen McNeil, Miss Kat Barnard,
Mrs Maryann Blakeborough

Physics Staff:

Mrs Abi Gibbon, Mr Steven Dempsey

Career Areas:

Physicists play a key role in meeting society's needs in areas such as medicine, energy, industry, material development, the environment and sustainability.

Courses in Turriff Academy

National 4 Environmental Science
National 4 Chemistry
National 4 Physics
National 5 Biology
National 5 Chemistry
National 5 Physics
Higher Biology
Higher Chemistry
Higher Physics
Scientific Technologies NPA
Advanced Higher Biology
Advanced Higher Chemistry
Advanced Higher Physics

Useful websites to help you with your choices:

www.myworldofwork.co.uk
www.skillsdevelopmentscotland.co.uk

Further advice and information on these options is available from your subject teacher, guidance teacher and careers adviser.