PHYSICS (Higher)

What are the aims of this course?

The course endeavours to provide learning experiences leading to the acquisition of worthwhile knowledge, skills and attitudes which will assist candidates to make their own reasoned decisions on many issues within a modern society increasingly dependent on modern science and technology. The course makes a valuable contribution to your general education and provides a sound basis for further study at a more advanced level.

This will be the second year of the CfE Higher; however since 2011 the school has offered Revised Higher Physics which contains the same content meaning staff are well prepared to deliver the new course. The content changes mean that the course is less cluttered and more up-to-date than the previous Higher Physics course. In addition to this, an assessment process with a greater emphasis on skills was implemented.

The revised course, with its combination of 'traditional' Physics skills, and modern, exciting developments in Physics has proved very popular with staff and students since its introduction and we expect this will continue with new higher.

What are the recommended entry levels for this course?

National 5 Physics (A/B grade) and pass at National 5 Mathematics.

What content is included in this course?

Our Dynamic Universe (Equations of Motion, Forces, Energy, Collisions, Explosions, Gravitation, Special Relativity, The Expanding Universe, Big Bang Theory)

Particles and Waves (The Standard Model, Forces on Charged Particles, Nuclear Reactions, Wave – Particle Duality, Interference and Diffraction, Refraction of Light, Spectra)

Electricity (Electrons and Energy, Electrons at Work, Internal resistance, Capacitors, Semiconductors and p-n junctions)

What skills will I develop?

In addition to developing the skill of problem solving, the *Researching Physics* unit is a skills development unit equipping candidates with the investigative and reporting skills demanded by employers and Further and Higher Education. It will involve web-based research and open-ended investigative work.

What learning and teaching approaches will I experience?

There are lecture-style lessons, tutorials and class practicals. ICT is used where appropriate, mostly on an individual basis.

How will I be assessed?

Each of the units is assessed by a short written test (UA). The course is also assessed and graded based upon the results of an external examination and an assignment. The external exam will last 3 hours and be a combination of multiple choice and extended response questions which assess both knowledge and skills. The assignment is a written report based upon research into a chosen area of the course

What are the homework requirements?

Homework booklets are provided, with exercises to be completed each week.

What are the possible progression routes?

The course will provide those who wish to proceed beyond Higher Physics with a suitable basis for further study, e.g. Advanced Higher in S6, or in university