Physics Department

Senior CfE Higher Physics Guide

Higher Physics is a challenging progression from the National 5 Chemistry Course.

Entry Requirements

The preferred entry level is a pass at National 5 Physics or, under exceptional circumstances, a pass at another National 5 science. This is to ensure that you are well prepared for the demands of the course and that you are doing a level which is appropriate for you.

The Course Content

The course consists of four units:

Unit 1 **Our dynamic Universe**	Unit 2 **Particles and Waves**	Unit 3 **Electricity (0.5 Unit)**	Unit 4 **Researching Physics (0.5 Unit)**
Subtopics: • Motions, equations and graphs • Forces, energy and power • Collisions, explosions and Impulse • Gravity and Mass • Special relativity • The expanding universe • Hubble's law • Expansion of the Universe • Big bang theory	Subtopics: • The standard Model • Forces on charged particles • Nuclear reactions • Wave particle duality • Interference and diffraction • Refraction of light • Spectra	Subtopics: • Monitoring and measuring a.c. • Current, potential difference, power and resistance • Electrical sources and internal resistance • Capacitors • Conductors, semiconductors and insulators • P-n junctions	Research an aspect of Physics; collect /create info' from different sources, and develop an investigation that will be reported in writing. Worth 20 marks, 16.7% final exam mark.

There are several pieces of assessment during this course similar to those of National 5.

1) Outcome 1 –**<u>Assessment standards 1.1-1.6</u> 'Investigation'**
    - Conduct an investigation and produce a precise scientific report.

2) Outcome 2 –
    - **<u>Assessment standard 2.1/2.2</u> 'Key Area Test' (KAT).**
    - This assesses knowledge and understanding as well as problem solving skills. The problem solving skills covered are analysing, selecting, processing and predicting.

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3) Assignment
    - You are required to research an aspect of Physics and write about its effect on society and the environment. You are expected to select, analyse and present data in your work as well as to reference where your information came from.
    - This work is worth 20 marks, which is 16.7% of your final exam marks.

4) The final exam.
    - The paper is worth 100marks, 20 multiple choice, 80 extended answer questions. It will last 2.5 hours. The total exam mark is awarded out of 120 (assessment + exam).

You must pass all forms of assessment before you can receive a course award.