

Physics Department

Senior National 5 Physics guide

Entry Requirements

The preferred entry level is a pass at National 4 Physics or a National 5 pass at another Science. This is to ensure that you are 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 three units (40 hours each):

Unit 1 Electricity and Energy	Unit 2 Waves and Radiation	Unit 3 Dynamics and Space
<p>Subtopics:</p> <ul style="list-style-type: none">• Conservation of energy• Electric charge carries and electric fields• Potential difference• Ohm's Law• Practical electrical and electronic circuits• Electrical power• Specific Heat Capacity• Gas laws and the kinetic model	<p>Subtopics:</p> <ul style="list-style-type: none">• Wave parameters and behaviours• Electromagnetic spectrum• Light• Nuclear radiation	<p>Subtopics:</p> <ul style="list-style-type: none">• Velocity and displacement — vectors and scales• Velocity–time graphs• Acceleration• Newton's Law• Projectile Motion• Space exploration• Cosmology

Assessment

There are several pieces of assessment during this course.

- 1) Outcome 1 –
 - **Assessment standards 1.1-1.6 'Investigation'**
 - You will conduct an investigation and produce an accurate scientific report.
- 2) Outcome 2 –
 - **Assessment standard 2.1/2.2 '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. These are completed in class and marked by staff to SQA exam board standards.
- 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 20% of your final exam marks.
- 4) The final exam.
 - The paper is worth 80marks, 20 multiple choice, 60 extended answer questions. It will last 2 hours.

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