Curricular Area: Science **Course Title:** Physics Advanced Higher

Course Description
The course is suitable for students who wish to continue to study Physics beyond Higher level and is an ideal introduction to University level study.
A high degree of commitment, self-motivation and determination are essential. Students will be expected to work independently and consequently this course is a stepping stone to the type of studying students will experience at University.

The course consists of 3 units of work.
Unit 1: Rotational Motion and Astrophysics: Kinematic relationships, angular motion, rotational dynamics, gravitation, general relativity
Unit 2: Quanta and Waves: introduction to quantum theory, particles from space, simple harmonic motion, waves, interference, polarisation
Unit 3: Electromagnetism: fields, circuits, electromagnetic radiation
Physics project: more detail on this in the assessment section

Entry requirements:-Higher Physics at Grade B or above, Higher Maths also useful

A**ssessment**
At Advanced Higher level students are assessed on their ability to make accurate statements, related to key areas of content and successfully perform solving problem skills, (in Key Areas assessments) as well as their ability to plan, carry out and write up experiment/practical investigation.
There is a Physics investigation, which allows students to carry out an in-depth study of a physics topic. This is an individual open-ended task, which may involve a significant part of the work being carried out without close supervision. The learner will extend and apply the skills of independent/autonomous working. This includes making independent and rational decisions based on evidence and interpretation of scientific information and the analysis and evaluation of their results. This will further develop and enhance their scientific literacy. The investigation will have 30 marks.
There will also be a prelim exam and an externally assessed final exam.

Home Study Expectations
Students are issued with home study every week. Home Study tasks will vary and could include research, consolidation of learning, practicing data handling skills or extended pieces of writing. Students will be expected to enhance and extend their knowledge in serious private study, especially when they are working on their own investigation.

Wider Achievement Opportunities
Students have many opportunities to explore and develop their investigative and practical skills in Physics. The ability to write extended pieces of text to express scientific ideas and knowledge are also developed.

Possible career path

The study of Physics at this level provides a good grounding for many careers in the many types of Engineering e.g. aeronautical, electrical, civil or mechanical, research in laboratories or the natural environment, geologist, medical physicist, food related careers, meteorology, and education.

For more information see http://www.physics.org/careers.asp?contentid=381