AS-LEVEL PHYSICS

There are a wide range of career opportunities available to those who study physics. Physicists are wanted in many areas, such as astronomy, medicine, meteorology, nursing, oceanography, patent examiner, as well as the more obvious engineering, communications and many other careers.

There are often incentives in the form of grants and scholarships, to study physics to higher levels. If you want to be well paid, a physics degree can help you get a job in finance, telecommunications or the electrical industry with an average starting salary of about £40k.
(Institute of Physics survey, website www.iop.org Feb 2008).

Course content and assessment

Unit 1 - Particles, Quantum Phenomena and Electricity
Particle physics introduces the fundamental properties and nature of matter, radiation and the quantum phenomena. The study of electricity builds on and develops previous GCSE studies, provides opportunities for practical work and looks into important applications.
Written examination of 1¼ hours, 40% of AS marks.

Unit 2 - Mechanics, Materials and Waves
This unit introduces vectors and develops knowledge and understanding of forces and energy. Materials are studied in terms of their bulk properties and tensile strength. The waves section develops the in depth knowledge of their characteristics, properties and applications, including refraction, diffraction, superposition and interference.
Written examination of 1¼ hours, 40% of AS marks.

Unit 3 - Investigative and Practical Skills in AS Physics
Experimental and investigative activities are carried out in order to develop practical skills. These activities allow the use of knowledge and understanding of Physics in planning, carrying out, analysing and evaluation. This unit is assessed by Practical Skills Assessment and Investigative Skills Assignment. 20% of AS marks.

Teaching and Learning

A variety of teaching and learning methods are used to assist your study. There is regular practical work to support the learning of theory and practice of skills leading to the assessment in the practical exam. There are various computer resources, including many different simulations to support the practical and theoretical work. Students are expected to undertake work outside the classroom with directed homework and your own research to improve your understanding. This is supported by the college Virtual Learning Environment.

Exam Board: AQA, syllabus: AS Physics Specification A,