

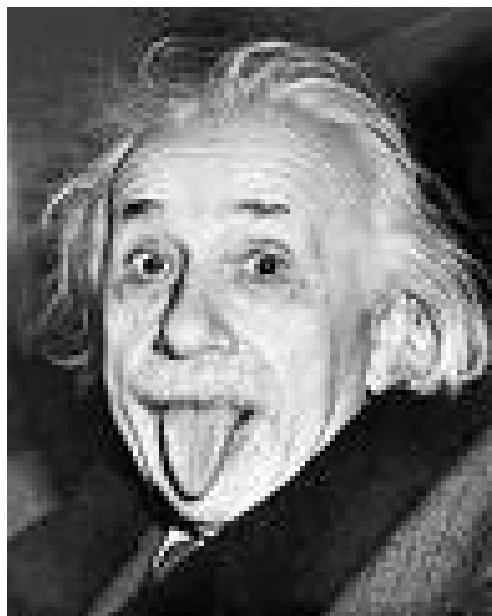


Physics

Why study Physics?

We're all born with an urge to understand the world around us. This leads us to ask questions such as "How does a mobile phone work?", "How does the Sun keep on shining?", "What is dark matter?", "What are the ultimate constituents of matter?", "How did the Universe begin?". If you find that the more answers you discover, the more questions you want to ask, then you're on the road to becoming a physicist and should be considering taking a physics course.

Exploiting the excellent teacher/student ratio, the Physics department has a long record of academic success. A significant number of our students have gone on to study Physics at university and achieve first class degrees.



The course is made up of six modules, three taken in each year.

Year 12 AS

Unit 1 will cover:

- modern techniques of communication; the nature of audio information and the methods by which it is coded, transmitted and received; digital communication as a medium for the twenty-first century
- from fundamental particles to the structure of the Universe; the achievements of particle physicists, studying

matter on a small scale, and cosmologists working on the very much larger scale.

Unit 2 will cover:

- how forces and motion underpin everyday activities such as transport, and activities such as record breaking in sport
- energy demands and the effect this has on the fate of the planet and future generations; our use of electrical energy.

Unit 3 will cover:

the practical skills which are an essential part of studying a Physics course at this level. It will build on the

The Course

development of the scientific skills learned at GCSE level and on the knowledge and understanding of How Science Works. These practical skills gained throughout the course include:

- selection and use of various equipment
- Processing of data,
- Making observations and measurements,
- Analysing and evaluation of results.

Year 13 A2

Unit 4 will cover:

- how physics is used to

send probes and astronauts into space; free-fall and apparent weightlessness of capsules in orbital motion

- energy and momentum conservation in relation to theme park rides
- investigating the invisible; searching for new mineral resources and buried remains; imaging organs inside the body.

Unit 5 will cover:

- macroscopic quantities such as temperature and pressure; molecular model of matter; steam and internal combustion engines
- the structure of matter;

high energy particles; electric and magnetic fields

- the generation of energy; nuclear materials; spontaneous and stimulated nuclear decay; nuclear fusion; radioactivity.

Unit 6 will cover:

- Extend all the skills introduced in unit 3.

For Further Information Please Contact

Mrs A. Brown