



Physics

One year AS/Two year A level.

You will develop awareness of how Physics can improve people's lives; how Physics is used in engineering, technology and medicine and how Physics research develops our understanding of the physical world.

Requirements:

The College minimum to start an advanced level course is one grade B and four grade Cs at GCSE. Students wishing to undertake this course require grade B in GCSE Mathematics and BB in GCSE Science or grade B in GCSE Physics and grade C or above in English Language. The student will also be expected to meet the Average Points Score for this subject. Students taking AS Physics will also be required to take AS Mathematics (Mechanics).

This subject will focus on:

- how our ideas of motion, forces and energy are applied in sports, designing safe buildings and safer vehicles;
- how our knowledge of sound waves and the phenomenon of standing waves is used in musical instruments;
- how the particle and wave nature of light has applications in lasers and solar cells;
- ideas about electrical current and voltage in semiconductors and metals;
- the equations of Newton and Kepler that describe the motion of the planets around the Sun and the motion of satellites around the Earth;
- how electromagnetism is used to generate electricity to drive motors;
- the phenomenon of nuclear fission, nuclear fusion and radioactivity;
- the use of x-rays, CAT scans, MRI and ultrasound in medicine; and
- the latest ideas about the origins of stars and of the universe and the current model of the fundamental particles that make up matter.

You can expect to:

- develop an understanding of the physical laws that govern our universe;
- learn to apply the scientific models used by physicists;
- plan and carry out practical investigations; and
- analyse and interpret data in many forms and produce written reports.

Method of assessment:

There are two written examinations which make up 80% of the assessment. The remaining 20% is internally assessed practical work.

Progression:

Physics develops mathematical skills, problem solving skills and the ability to use information that is presented in many different ways. Physics students have gone on to a wide variety of occupations and degree courses in medicine, engineering, computing, business and accounting.

Other information:

Lee Nissim (ex Gaynes) says: "I've always enjoyed Physics and studying it at A Level is a great step up from GCSE providing much more detail and greater understanding." Lee has an offer from Cambridge University to study Engineering in 2011, after taking a gap year to work with an engineering company.

Elizabeth Caesar (ex Frances Bardsley) plans to study International Economics at Essex University. Elizabeth says: "Physics helps you to explore your world and what is outside at a deeper level and it explains things we take for granted in our everyday lives".

In 2009 100% of students passed A Level Physics and 43% achieved grades A or B.