Physics

Qualification: A-Level Physics
Additional Entry Information:

Maths / Numeracy	English	Other Subjects
B	B	**Triple Award** : B or above in Physics **Double Award** : AB minimum in Double Award Science

Speak to **Mr A Gardner** for more information.

What do students need to know or be able to do before taking the course?

Physics is a very demanding yet rewarding course that requires a very high level of commitment and work. The course assumes no prior knowledge although you should take a keen interest in Science and Physics in the wider world and should get into the habit of reading or watching the news daily for Science based stories.

What will students learn on this course (skills and course content)?

In Unit 1, year 12, we study Basic Physics, Kinematics, Dynamics, Energy Concepts, Solids Under Stress, Using Radiation to Investigate Stars, Particles and Nuclear Structure.

In unit 2, year 12, we study Conduction of Electricity, Resistance, D.C. Circuits, The Nature of Waves and Wave Properties, Refraction of Light, Photons and Lasers.

In unit 3, year 13, we study Circular motion and Vibrations, Kinetic Theory and Thermal Physics, Nuclear Decay and Nuclear Energy.

In unit 4, year 13, we study Capacitance, Electrostatic and Gravitational Fields, Orbits and the Wider Universe, Magnetic Fields, Electromagnetic Induction, X-Rays, Ultrasound, Magnetic Resonance Imaging and Radioactivity.

In unit 5, we develop practical and evaluative/analytical skills. In general, the course allows pupils to develop the key skills of literacy, numeracy, ICT and analytical skills.

What sort of student is this course suitable for?

This course is suitable for students with an enquiring mind; people who are open minded and prepared to widen their horizons. Successful students will already be reading widely and thoroughly immersing themselves in the subject.

What kind of work will students need to be able to do outside of lessons?

Physics is constantly changing so you will need to keep up to date via a range of resources. These might include newspapers, TV news broadcasts and TV programmes.

What is the course content and how is this assessed?

AS UNIT 1 - MOTION, ENERGY AND MATTER

Written examination: 1 hour 30 minutes. 20% of qualification.

AS UNIT 2 - ELECTRICITY and LIGHT

Written examination: 1 hour 30 minutes. 20% of qualification.

A2 UNIT 3 - OSCILLATIONS and NUCLEI

Written examination: 2 hours 15 minutes. 25% of qualification.

A2 UNIT 4 - FIELDS and OPTIONS

Written examination: 2 hours. 25% of qualification.

A2 UNIT 5 - PRACTICAL EXAMINATION 10% of qualification

This unit gives learners the opportunity to demonstrate their ability to carry out an investigation and to analyse and evaluate experimental data. This will be carried out individually, under controlled conditions. The practical examination comprises two tasks. Experimental Task (25 marks) Practical Analysis Task (25 marks)

What could students go on to do at the end of this course?

Physics is an extremely interesting course that is a key part of Science, Technology and Engineering. Physics is important in many fields of employment, such as medicine, engineering and the obvious scientific fields. Physics is very well respected as a qualification for entry on to most higher education courses, including non-scientific courses. Previous students have successfully secured places at universities across the UK to study Physics.