

# Physics A Level

## Who is the course for?

Physics is for those who love to find out about how the Universe works; from the smallest scale where we look at fundamental particles to the scale and age of the Universe. You frequently get to apply your logical reasoning, mathematical skills and investigative skills.

During the course, you will learn how to conduct careful investigations, which can reveal truths about how things work. You will need to use mathematical models to precisely predict how things behave. All of the above are essential for anyone who wants to pursue physical science or engineering in their future.

## What does the course involve?

The course covers the breadth of the most important Physics discovered over the last 400 years! There are two major strands to the course: The 'Newtonian world' in which you model motion of all types, from momentum in collisions to orbits and oscillations; and "electrons waves and photons" where we look at some of the most precise scientific models ever produced which we use to explain phenomena on the smallest of scales.

## Modules include:

**Practical skills:** Your teacher will assess your ability to perform a range of key practical investigation skills. This contributes to the "practical endorsement" which is not graded but is reported alongside your main grade. Your investigation skills will also be assessed in exams.

**Foundations of Physics:** In this short module, you learn the key knowledge and skills, which underpins the remainder of the course such as adding vectors, Systems of measurement and uncertainties.

**Forces in Motion:** Building on your GCSE mechanics, this unit grows your confidence in analysing more complex situations using the basics of Newton's laws of motion.

**Electrons Waves and Photons:** Starting from the familiar ground of electric circuits and waves we build to the nature of light and eventually a first introduction to Quantum Physics.

**Newtonian World and Astrophysics:** Takes you through ideas which explain why an apple falls to the ground and then applies them in order to explain why the Earth orbits the Sun or how to make a Black Hole.

**Particles and Medical Physics:** This unit explains some of the most cutting edge technology on the planet through our application of electric and magnetic fields.

## Assessment Methods

A-Level Physics is assessed by three exams at the end of Year 13, which make up 100% of the qualification. The exams are modelling physics (37%) Exploring Physics (37%) and unified Physics (26%) The practical endorsement sits alongside this grade and is assessed separately, but is not graded.

## Progression Options

Physics will help you get ahead in most STEM careers. Physics is an important subject for careers in Physics, Astrophysics, Cosmology, Medicine, Engineering, Materials Science, Space Exploration, Architecture, Energy sectors and Teaching. It also develops key skills, which would be considered valuable in growth economies such as Finance and Software Development.

## Awarding Body

OCR