

PHYSICS – A Level



“Physics has no limits – everything in your life, on this planet, other planets, to the far reaches of universe and beyond is in physics' job description.”

Overview

We'd be a bit lost without physics. All the gadgets that we take for granted like laptops and mobile phones wouldn't be here. Physicists have recently shown that teleportation is possible – who knows what that will lead to in a few years' time?

At A level you will start to see how forces, energy, waves, radioactivity, electricity and magnetism work together, and begin to grasp the universal principles that apply to everything from the smallest atoms to the largest galaxies.

Year 12

Module 1: Practical skills are developed through a range of guided practical activities.

Module 2: An introduction to important conventions and ideas that permeate the fabric of physics.

Module 3: Learn how to model the motion of objects using mathematics, understand the effect forces have on objects, the important connection between force and energy, appreciate how forces cause deformation and understand the importance of Newton's laws of motion.

Module 4: Introduction to the key ideas of quantum physics.

Year 13

Module 5: Learn about thermal physics, circular motion, oscillations, gravitational field, astrophysics and cosmology.

Module 6: Learn about capacitors, electric field, electromagnetism, nuclear physics, particle physics and medical imaging.

Assessment method

At the end of Year 12 you will sit end of year exams, these will not count towards your final results.

There are three final written examinations at A level, two of which are 2 hours 15 minutes long and the third is 1 hour 30 minutes long. Practical skills will be tested in the exams and you will be awarded a pass on your certificate if you successfully complete the practicals and laboratory books.

Additional information

Additional assessed homework is set weekly per teacher and consists of a range of reinforcement exercises and past examination questions. In addition to homework you will be expected to carry out a minimum of 5 hours independent study per fortnight in each subject studied during which time you are expected to write up lesson notes and complete end of chapter questions. A catch-up session is also held weekly.

All specialist textbooks, scientific papers and publications will be made available. You will need to have a scientific calculator and an internet enabled device such as a laptop or notebook.

We recommend the following books to help support studies but these are not essential - revision guide CGP 'A Level Physics' and 'Maths Skills for A Level Physics' from Nelson Thornes.

Entry requirements

Five GCSE Grade 6 to 9 including English and Maths.

Students require a GCSE Grade 6 in Physics or Additional Science.

For more information contact

Mr M Serle
mserle@writhlington.org.uk

Futures

Astronomy, education, engineering, medicine, meteorology, music, nanotechnology, oil & gas, renewable energy, scientific research, space exploration, telecommunications, transport, banking, insurance, accountancy, law, software, computing, etc.

Exam board

OCR
Oxford Cambridge and RSA