HEADLANDS SCHOOL
SINCE 1965

Headlands School,
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A Level Physics

Course Title: A Level Physics	**LARS/QAN Code:** 6014743X
Level: Three	**Awarding Organisation:** OCR
Delivery: Classroom based	**Start Date:** 8/9/2020
Location: Headlands School	Url: http://www.headlandsschool.co.uk/
Cost: Covered by EFA funding	**Duration:** 2 years
Full-time or Part-time: Full-time	**Attendance:** Daytime

Who is the course for:

In a word EVERYONE! Physics is one of the 9 "facilitating subjects" identified by Russell group universities as being required or useful for application onto the most different courses. Employers prize the qualities of physics (and engineering) university graduates for their ability to solve problems and develop logical solutions not just in science, but also in finance, and management sectors. It will be someone with good knowledge of physics who; solves the looming worldwide energy crises; supplies the world with clean drinking water; describes what causes gravity and mass; launches long distance space missions out of our solar system; builds a space elevator; and explains the origins of the Universe. The next big breakthrough in science might be yours, or you might just think it's something you can do that will help you get to university!

The A-level Physics syllabus we follow at Headlands is OCR A. This is a course that follows a traditional, recognisable route through standard level 3 content.

Entry requirements:

Candidates must have achieved a grade 6 in Combined Science or a 5 in Physics to be accepted onto this course, as without this level of prior attainment, a student would struggle to achieve a grade at A Level.
GCSE Maths Grade 5 would be an advantage as being able to rearrange basic equations and use basic trigonometry is a requirement from the start.

What you'll learn:

Year one: A two week 'foundations of physics' module covers physical quantities and units, analysing data and vectors to check we're all up to speed before we start the main units.

- Module 3 – Forces and motion covering: motion, forces in action, work, energy and power, materials and Newton's laws of motion and momentum.
- Module 4 – Electrons, waves and photons: charge and current, energy, power and resistance, electrical circuits, waves and quantum physics.

In addition to this most of the required practicals that makeup Module 1 are in year 1 and

Year two

- Module 5 – Newtonian world and astrophysics covering: thermal physics, circular motion, oscillations, gravitational field, astrophysics and cosmology
- Module 6 – Particles and medical physics covering: capacitors, electric fields, electromagnetism, nuclear and particle physics and medical imaging.

How you'll learn:

The course is delivered as a mixture of theory, demonstration and practical experiments to introduce key concepts. Followed up with a lot of practice applying these key concepts to real life situations and problems and therefore being able to answer A-level standard questions.

What you need to bring:

An A4 ring-binder and file dividers – to keep notes, practice and assessments organised
A scientific calculator – a mobile phone is NOT suitable
A pencil and ruler – for graphs and diagrams
Optional: The textbook "A-level Physics for OCR", Gurindha Chada, Oxford University Press – you will only have access to our copies while you are in class.

How you'll be assessed:

Modelling Physics: 2¼ hour written exam 100 marks, 37% of A level. (Year one content)
Exploring Physics: 2¼ hour written exam 100 marks, 37% of A level. (Year two content)
Unified Physics: 1hr 30mins written exam 70 marks, 26% of the A level. (Combines content from both years)
Practical endorsement in physics (Non Exam Assessment)

Where next:

Degree level qualifications in Physics, Engineering (all disciplines), Forensic Science, Medical Physics, Computer game design, Music technology, Astronomy, Astrophysics, Rocket Science, Medicine, Accountancy, Law etc.

Higher Apprenticeships in Engineering, Computer science, Accountancy, Law etc.