

Subject: Physics

Exam Board: OCR

Course Number: Physics A - H556 (from 2015)

Course Overview:

The course covers exciting recent developments in the field of physics. The AS content deals with traditional topics such as Mechanics, Electricity and Waves. Quantum Physics is also one of the many interesting topics taught during the AS course. Practical skills are developed where students develop skills in recording, analysing and evaluating data.

During the second year, some of these topics are revisited in more depth. Topics such as Thermal Physics, Simple Harmonic Motion, Particle Physics, Medical Physics and Astrophysics are included. Practical skills similar to the first year are developed but they require a more mathematical treatment.

How is this A Level assessed?:

Unit Code	Unit Title	Guided Learning Hours	Term when will this be taught (2 yr course)	Assessment Details	Assessment Weighting
Module 1	Development of practical skills in physics	10	Autumn 2018	Paper 1 and Paper 2	See below
Module 2	Foundations of Physics	12	Autumn 2018	Paper 1 and Paper 2	
Module 3	Forces and motion	40	Autumn 2018 – Summer 2019	Paper 1	
Module 4	Electrons, waves and photons	50	Autumn 2019 – Summer 2020	Paper 2	
Module 5	Newtonian world and astrophysics	50	Autumn 2019 – Summer 2020	Paper 1	
Module 6	Particles and medical physics	50	Autumn 2019 – Summer 2020	Paper 2	
Practical Endorsement				Non- exam assessment	

GCSE grades (minimum) required to enrol on this course:

- 6 in Physics and a 6 in at least one of the other Sciences if studied Separate Science at GCSE
- **OR**
- 6-6 in Combined Science
- 5 in Mathematics
- 4 in English Language

Paper		Marks	Duration	Weighting
Paper 1	Modelling physics Content – Modules 1, 2, 3, 5	100	2 hr 15 mins	37%
	Section A – Multiple choice	15		
	Section B – Structured questions, covering theory and practical skills	85		
Paper 2	Exploring physics Content – Modules 1, 2, 4, 6	100	2 hr 15 mins	37%
	Section A – Multiple choice	15		
	Section B – Structured questions, covering theory and practical skills	85		
Paper 3	Unified physics Content – all modules	70	1 hr 30 mins	26%
	Structured questions and extended response questions covering theory and practical skills	70		

What can I do with this qualification/Post-18 progression opportunities/ university subjects which this course supports:

A physics education equips a person to work in many different and interesting places—in industrial and government laboratories, in universities, as astronauts, pilots, engineers and even as physics teachers! In addition, many physicists leave the lab behind and work at newspapers and magazines, in government, and in finance and banking — places where their problem-solving abilities and analytical skills are great assets. Courses at university which Physics support include Engineering, Physiotherapy, Meteorology amongst others.

Other A Level Subjects which support academic attainment/ complement learning

Mathematics

Essential Textbook incl ISBN

A Level Physics a for OCR ISBN-139780198352181. This book covers the content for both years.

Recommended supplementary resources- websites, blogs, journals:

New Scientist Physics Journal

These two websites are strongly recommended:

<http://www.s-cool.co.uk/alevel/physics.html>

<http://www.schoolphysics.co.uk/age16-19/>

Course specific equipment- include place to purchase and typical cost or estimate:

Protractor, ruler and scientific calculator – these can be purchased from any retailer

Out of lesson learning including trips and visits (cost?):

Students are strongly recommended to attend UCL Science Lectures for Sixth Formers held at the UCL Science Centre. These lectures address a variety of Physics areas such as Space Robots, Cosmic Rays and Nanotechnology. Admission is free and no booking or tickets are required.

Lead Teacher to contact: Dr Farah Dean

Email: f.dean@parkhighstanmore.org.uk

Quote from current student- include their name:

“I have thoroughly enjoyed the A-Level physics course these past two years. I feel that the knowledge I gained from learning Physics helped my learning with some individual aspects from other subjects I was studying, especially Mathematics. The same can be applied vice versa and hence I strongly recommend doing Mathematics and Physics together. The classes have been very informative and I have built deep relations with

the teachers. Physics is a very difficult subject to grasp, thus it is not for the faint hearted. However, it is deeply relishing to comprehend challenging topics, mainly due to our teachers' willingness to guide us along the way.”
Niren B ex-Year 13 pupil