

# PHYSICS

## OCR PHYSICS A

### A Level Physics A (H156 / H556)

Physics A Level is one of the most universally accepted qualifications for progression to university. The course content covers the basis of how things work, from the constituent parts of atoms out to the extent of the universe. You will integrate the concepts studied with a range of practical experiments throughout each topic giving the course both an academic and practical focus. You will learn to apply your knowledge of the key concepts to solve problems in a range of different contexts and applications.

#### Key features

OCR Physics A is a well-established course built on many years of experience, covering the knowledge and understanding necessary to progress to STEM degrees and careers.

Incorporates both Astrophysics and Medical Imaging.

Physics is one of the top three A Levels in terms of eligibility for degree entry.

**Website** - <http://www.ocr.org.uk/qualifications/as-a-level-gce-physics-a-h156-h556-from-2015/>

#### What's Included?

Development of practical skills in physics  
Physical quantities and units  
Making measurements and analysing data  
Nature of quantities  
Motion  
Forces in action  
Work, energy and power  
Materials  
Momentum  
Charge and current  
Energy, power and resistance  
Electrical circuits  
Waves  
Quantum physics  
Thermal physics  
Circular motion  
Oscillations  
Gravitational fields  
Astrophysics and cosmology  
Capacitors  
Electric fields  
Electromagnetism  
Nuclear and particle physics  
Medical imaging.

Emphasis throughout the course is on developing knowledge, competence and confidence in **practical skills** and **problem solving**.

## How will you be assessed?

A Level is covered by **three examinations**:

Total of **6 hours** of examinations (2 x 2 hours 15 minutes and 1 x 1 hour 30 minutes) taken at the end of the course.

A wide range of questions types which include **multiple choice**, **short answer** and **extended response** questions.

## What are the benefits?

Essential for **access** to physics and engineering courses.

**Highly regarded** for other subjects such as medicine, law and economics because of the thinking skills and problem solving involved.

Subject cross-over with Maths and Chemistry. Makes Maths, Physics and Chemistry a powerful combination to **optimise** your A Level grades.

## Practical endorsement

Wide range of **practical experience** incorporating apparatus, skills and techniques.

With experiments such as;

Measuring resistance in a circuit with various resistor combinations

Obtaining a value for absolute zero

Analysing the discharge of a capacitor

Obtaining a value for 'g' from a pendulum.

## Are you . . ?

Interested in getting a qualification that leads to lots of **different options** at university, from Theoretical Physics to Applied Physics, Engineering and Mathematics?

Interested in **STEM** careers?

**Curious** about how things work?

Interested in **problem solving**?

Interested in doing a wide variety of **practical experiments** to test hypotheses?

Curious how the universe works?

Interested in how **new particles** are discovered?

## Entry to the course

You need to be interested in physics and in the world around you. Although mathematics is not necessary it is recommended that students consider taking mathematics as both subjects complement each other well. You will need to obtain a grade 5 or above at GCSE science and mathematics.

## Need extra help with your AS/A2 studies?

Physics clinic runs one lunchtime in the week from 1.10 –1.55pm in N1. You can also arrange a tutorial with any teacher within the department.