

# Physics

Level 3  
A Level

Course Leader: Mr B Masters

## Entry requirements

- A minimum of 2 grade 7's in Combined Science is required and grade 7 in Maths is recommended.
- Ability to work neatly, safely and systematically
- Intrinsic motivation and desire to achieve

## Why choose this course?

The A Level Physics course takes you into the heart of what is widely regarded as the most fundamental of all sciences. Studying Physics can see you grasping the scope of massive galaxies or probing the tiniest component particles of atoms. Physics is the study of how everything works and the basic rules of the universe. The course is full of challenges, opportunities, and full of practical work.

Physics is a subject that is constantly changing and is at the forefront of human efforts to develop efficient and environmentally friendly technologies. The careers open to you as a physics graduate are endless and usually very well paid.

## Web Links

<https://www.ocr.org.uk/qualifications/as-and-a-level/physics-a-h156-h556-from-2015/>

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**What does the course involve?****Units include:**

Module 1 – Development of practical skills in physics

- 1.1 Practical skills assessed in a written examination
- 1.2 practical skills assessed in the practical endorsement

Module 2 – Foundations of physics

- 2.1 Physical quantities and units
- 2.2 Making measurements and analysing data
- 2.3 Nature of quantities

Module 3 – Forces and motion

- 3.1 Motion
- 3.2 Forces in action
- 3.3 Work, energy, and power
- 3.4 Materials
- 3.5 Newton's laws of motion and momentum

Module 4 – Electrons, waves, and photons

- 4.1 Charge and current
- 4.2 Energy, power, and resistance
- 4.3 Electrical circuits
- 4.4 Waves
- 4.5 Quantum physics

Module 5 – Newtonian world and astrophysics

- 5.1 Thermal physics
- 5.2 Circular motion
- 5.3 Oscillations
- 5.4 Gravitational fields
- 5.5 Astrophysics and cosmology

Module 6 – Particles and medical physics

- 6.1 Capacitors
- 6.2 Electric fields
- 6.3 Electromagnetism
- 6.4 Nuclear and particle physics
- 6.5 Medical imaging

**Practical Endorsement**

Students will be awarded a separate endorsement of practical skills, which will be assessed by teachers and moderated externally. This will not be graded. If students pass, it will be reported on their certificates.

In order to develop the necessary skills, knowledge and understanding, students have to have carried out a minimum of 12 assessed practical activities, which will contribute towards the Practical Endorsement. The skills, knowledge and understanding of this practical work will also be assessed in written examinations.

**Possible career pathway**

A Level Physics can lead to a wide range of career opportunities. These will make you an asset not only to employers in industry, but also in professions such as law and accountancy. We have had several students continue their studies into the highly sought after field of Engineering stemming from their Physics background.

*Note: This is our current offer which is subject to change*