



# Sandwell Academy

## Advanced General Certificate of Education PHYSICS

### WHY PHYSICS?

The opportunities for students of physics, on completion of full-time education, are enormous. There are many possible careers within the scientific world and qualifications in science subjects are acceptable as an entry into many other careers.

Science students at Sandwell Academy will be prepared to move into Higher Education courses and careers in a wide variety of different fields including;

Engineering

Pharmacy

ICT

Science research

Aeronautics

Forensic Science

Medical Sciences

Physics

Finance and Banking

Science Teaching

The Science courses offered at Sandwell Academy are designed to provide academic and vocational experiences. They will prepare students for their choice in both the world of work and Higher Education.

### SPECIFIC ENTRY REQUIREMENTS

- Grade 6,6 overall for GCSE Combined Science (Trilogy) or grade 6 for GCSE Physics (Separate Science)
- Grade 7 in GCSE Mathematics
- Must be selecting Physics alongside either Chemistry or Mathematics. Physics cannot be selected as a stand-alone subject.

## COURSE DETAILS

OCR: H558

You will study six modules as follows:

**1. Development of Practical Skills in Physics**      **Practical Endorsement**  
During the course you will improve your practical science skills. Within the work on other modules you will complete a series of tasks designed to assess your ability to manipulate a range of data as well as your skills in evaluating the quality of experimental evidence. This will be assessed in the form of an internal endorsement of your ability to undertake various practical skills in lessons over the duration of the course.

**2. Foundations of Physics**      **Written Examination**  
This module ensures that you have a thorough basis for the content that follows. You will develop mathematical skills, and understand the quantities and units that are used across the subject area.

**3. Mechanics**      **Written Examination**  
In this module you will develop your understanding of motion, forces in action, work and energy. You will explore Newton's laws of motion and momentum to develop your understanding of, for example, car safety.

**4. Electrons, Waves and Photons**      **Written Examination**  
This module focuses on electricity and circuits alongside waves and quantum mechanics. You will study applications of circuit theory as well as concepts such as the photoelectric effect and wave particle duality.

**5. Newtonian World**      **Written Examination**  
Building on AS modules you will develop your ability to apply Newton's laws to a wider range of contexts. You will study circular motion, oscillations and thermal physics.

**6. Particles and Medicine**      **Written Examination**  
Within contexts such as medical physics and cosmology you will extend your understanding of contemporary physics and how it relates to the world around us.

### Examinations

1 Modelling Physics 2h15    Content from modules 1, 2, 3 & 5    Weighting: 37%

2 Exploring Physics 2h15    Content from modules 1, 2, 4 & 6    Weighting: 37%

3 Unified Physics    1h30    Content from modules 1 - 6      Weighting: 26%