



Physics A Level



Exam Board: AQA

Entry requirements: Grade 6 in Maths GCSE, Grade 4 in English GCSE and two Grade 6s in Science GCSE to include Physics or Combined Science

Intent

Structure

Physicists explore the fundamental nature of almost everything we know. They probe the furthest reaches of the Earth to study the smallest pieces of matter. Join them to enter a world deep beneath the surface of normal human experience.

At Shoreham academy we seek to develop the attitudes, actions and ways of thinking of the physicist:

- Seeking deeper understanding
- Using experimental data
- Finding consistency
- Thinking critically
- Setting aside preconceptions
- Testing plausibility
- Using reasoning and logic
- Being creative
- Constructing models
- Using parallels and analogies

A-level Physics lasts two years, with exams at the end of the second year. We hold “progression” exams at the end of the first year to ensure students have the requisite knowledge to undertake the second year.

First year of A-level

Measurements and their errors
 Particles and radiation
 Waves
 Mechanics and energy
 Electricity

Second year of A-level

Further mechanics and thermal physics
 Fields Nuclear physics
 Turning points in physics

Implementation

Content & Sequencing

Students study 9 units, they are taught by 2 expert physics teachers each year with the units running in parallel:

First year of A-level

Measurements and their errors
 Particles and radiation
 Waves
 Mechanics and energy
 Electricity

Second year of A-level

Further mechanics and thermal physics
 Fields Nuclear physics
 Turning points in physics

Assessment Methods

3 exam papers

Paper 1 What's assessed Sections 1–5 and 6.1 (Periodic motion)

• written exam: 2 hours • 85 marks • 34% of A-level Questions 60 marks of short and long answer questions and 25 multiple choice questions on content.

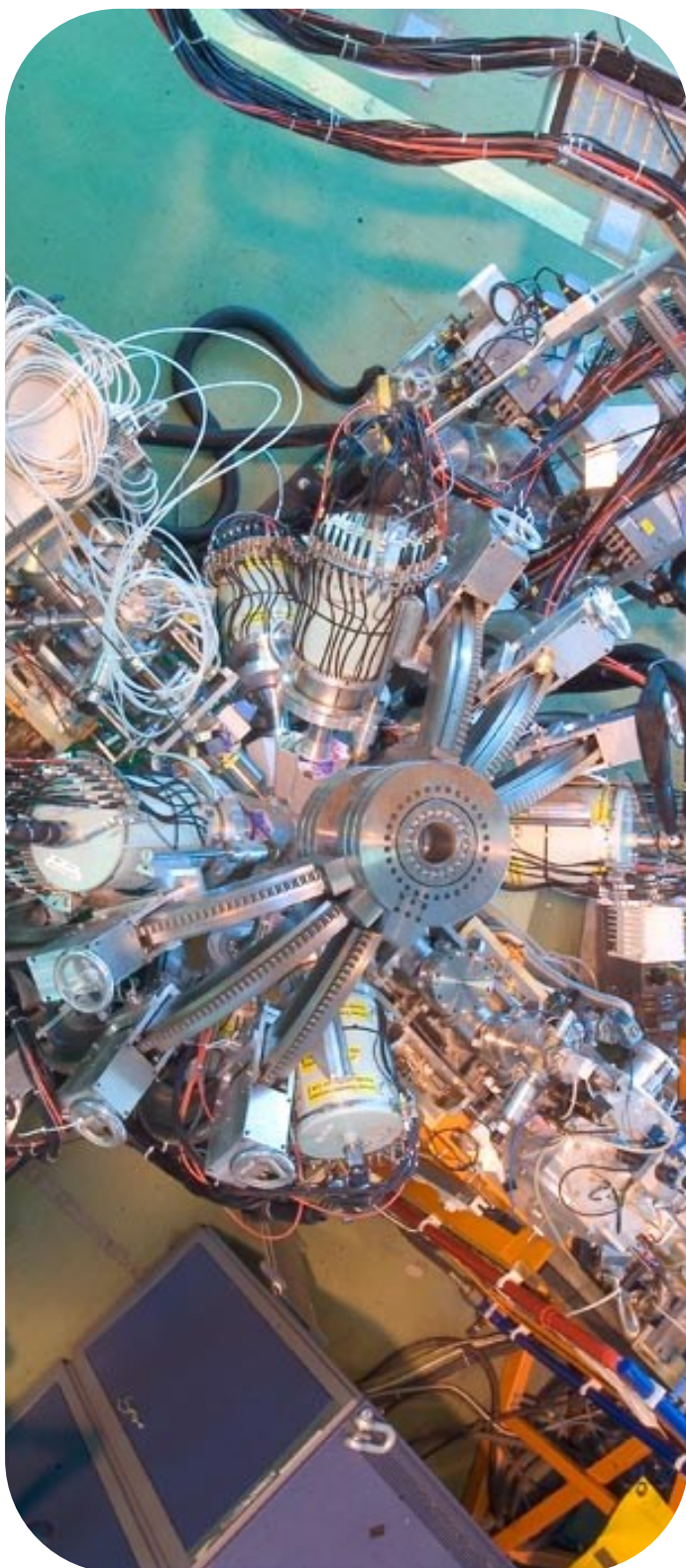
Paper 2 What's assessed: Sections 6.2 (Thermal Physics), 7 and 8 Assumed knowledge from sections 1 to 6.1 •

written exam: 2 hours • 85 marks • 34% of A-level Questions 60 marks of short and long answer questions

and 25 multiple choice questions on content.

Paper 3 What's assessed Section A: Compulsory section: Practical skills and data analysis Section B: Students enter for one of section 12 • written exam: 2 hours • 80 marks • 32% of A-level Questions 45 marks of short and long answer questions on practical experiments and data analysis. 35 marks of short and long answer questions on Turning points in Physics.





Impact

Onward Progression

Physics, like all sciences, is a practical subject.

Throughout the course skills are developed through practical activities including:

- investigating interference and diffraction of laser light
- measuring acceleration due to gravity
- investigating systems that oscillate
- investigation of the links between temperature, volume and pressure for gases
- safe use of ionising radiation
- investigating magnetic fields

These practicals will be the vehicle for developing skills and confidence needed to investigate the way things behave and work. It will also ensure that if students choose to study a Physics-based subject at university, they will have the practical skills needed to carry out successful experiments at degree level.

Studying A-level Physics offers an infinite number of amazing career opportunities including:

- Geophysicist/field seismologist
- Healthcare scientist, medical physics
- Higher education lecturer
- Radiation protection practitioner
- Research scientist (physical sciences)
- Scientific laboratory technician
- Secondary school teacher
- Meteorologist
- Structural engineer
- Acoustic engineer
- Product/process development scientist
- Systems developer
- Technical author

You can also move into engineering, astrophysics, chemical physics, nanotechnology, renewable energy and more, the opportunities are endless.

Further information contact

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