Bloxham School

Physics

A Level





Why choose this subject?

Passion: Physics is fundamental to our understanding of the universe from the largest galaxy to the smallest subatomic particle. The A Level Physics course will fascinate you and undoubtedly provide plenty of challenge.

Career: Physics is an excellent choice for anyone intending to study one of the STEM (Science, Technology, Engineering and Mathematics) subjects at university. It is also extremely well respected as one of the most academically rigorous A Level subjects.

Physics is also applicable to a large number of careers where you might not expect it to be useful.

Examination structure – L6

Paper 1

Multiple Choice — 1 hour 15 minutes

40 marks

40 multiple-choice questions

Questions are based on the AS Level syllabus content.

Externally assessed

31% of the AS Level

15.5% of the A Level

Paper 2

AS Level Structured Questions — 1 hour 15 minutes

60 marks

Structured questions

Questions are based on the AS Level syllabus content.

Externally assessed

46% of the AS Level

23% of the A Level

Paper 3

Advanced Practical Skills — 2 hours

40 marks

Practical work and structured questions

Questions are based on the experimental skills in the Practical assessment section of the syllabus. The context of the questions may be outside the syllabus content.

Externally assessed

23% of the AS Level

11.5% of the A Level

Examination structure – U6

Paper 4

A Level Structured Questions 2 hours

100 marks

Structured questions

Questions are based on the A Level syllabus content; knowledge of material from the AS Level syllabus content will be required.

Externally assessed

38.5% of the A Level

Paper 5

Planning, Analysis and Evaluation

1 hour 15 minutes

30 marks

Candidates answer two compulsory questions.

Questions are based on the experimental skills in the Practical assessment section of the syllabus. The context of the questions may be outside the syllabus content.

Externally assessed

11.5% of the A Level

The nature of the course

Examination board: Cambridge international

Content overview

Candidates for Cambridge International AS Level Physics study the following topics:

1 Physical quantities and units
2 Kinematics
3 Dynamics
4 Forces, density and pressure
5 Work, energy and power
6 Deformation of solids
7 Waves
8 Superposition
9 Electricity
10 D.C. circuits
11 Particle physics

AS Level candidates also study practical skills.

The nature of the course

Examination board: Cambridge international

Candidates for Cambridge International A Level Physics study the AS Level topics **and** the following topics:

12 Motion in a circle
13 Gravitational fields
14 Temperature
15 Ideal gases
16 Thermodynamics
17 Oscillations
18 Electric fields
19 Capacitance
20 Magnetic fields
21 Alternating currents
22 Quantum physics
23 Nuclear physics
24 Medical physics
25 Astronomy and cosmology

A Level candidates also study practical skills.

What do we expect from candidates?

- It is expected that you will achieve at least a grade 7 in GCSE Physics (or 77 in double award science).
- Additionally, students taking Physics should have a grade 7 or above in GCSE Mathematics.
- Although A Level Mathematics is not a pre-requisite for the course, it is strongly advised and those students without this may find aspects of the course difficult without additional Maths lessons.

With which subjects can it be combined?

Physics is often successfully combined with Mathematics, DT and other sciences.

Higher Education and Careers?

An A Level qualification in Physics will enable students to go on to degree level studies at university, particularly if students are looking to read Physics or Engineering.

For the student who wishes to pursue other career avenues, the course provides a stimulating experience and sound background, as well as developing logical thought and many other widely applicable skills.

Physics Olympiad

Senior Physics Challenge

The Senior Physics Challenge for Year 12 students is an exciting opportunity for students to stretch their problem-solving skills and apply fundamental physical principles to novel situations. Over 6000 students take part in the competition each year.

2021 (Online) – 3 Silver and 8 Bronze

2022 (Online) – 1 Gold, 5 Silver and 1 Bronze

2022 (Written) – 1 Silver and 5 Bronze

Teaching Staff (At A Level)

Mr G. R. Chalmers (Head of Department)

Dr M. J. Ruck

Mrs C. Linton