

A level Physics

Overview:

Exam Board: OCR

Physics encompasses the study of the universe from the largest galaxies to the smallest subatomic particles. Physics is crucial to understanding the world around us, the world inside us, and the world beyond us. Moreover, it's the basis of many other sciences, including chemistry, oceanography, seismology, and astronomy (and can be applied to biology or medical science). All are easily accessible with an education in physics.

Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries, like computers and lasers, that lead to technologies which change our lives—from healing joints, to curing cancer, to developing sustainable energy solutions.

Content:

Year 1

Development of practical skills; Foundations of physics; Forces and motion; and Electrons, waves, and photons.

Year 2

Development of practical skills; Foundations of physics; Newtonian world and astrophysics; and Particles and medical physics.

Key Skills

- Mathematical reasoning
- Practical laboratory skills
- Problem solving
- Research
- Independent study
- Data analysis

Entry Requirements:

You will need:

- GCSE grade 6-6 or higher in Combined Science
or
GCSE 6 in Triple Science Physics plus one other grade 6 in either Chemistry or Biology.
- GCSE grade 6 or above in GCSE Mathematics.
- You will need to show a high level of interest and enthusiasm in class and be capable of independent study.

How Assessed:

A-level grades will be based only on marks from three written exams.

A separate endorsement of practical skills will be taken alongside the A-level. Students must complete 12 practical activities so they can be assessed on their competency in a specified range of practical skills.

Exam	Overview of Assessment	Breakdown of marks
Paper 1	2 hour 15 minutes written exam Content: Development of practical skills in physics; Foundations of physics; Forces and motion; and Newtonian world and astrophysics.	100 marks 37%
Paper 2	2 hour 15 minutes written exam Content: Development of practical skills in physics; Foundations of physics; Electrons, waves, and photons; and Particles and medical physics.	100 marks 37%
Paper 3	1 hour 30 minutes written exam Content: Development of practical skills in physics; Foundations of physics; Forces and motion; Electrons, waves, and photons; Newtonian world and astrophysics; and Particles and medical physics.	70 marks 26%

Progression:

Careers:

Anything anywhere – physics is the most sought after A-Level by universities and employers alike. This is not surprising as it was rated the joint hardest A Level along with Chemistry. Physicists are problem solvers. Their analytical skills make physicists versatile and adaptable so they work in interesting places. You can find physicists in industrial and government laboratories, on college campuses, in the astronaut corps, and consulting on TV shows.

An education in physics is also a great foundation for careers in: Journalism; Law; Finance; Medicine; Engineering; Computer Science ; Astronomy; and Biology.

University Courses:

Physics A-level has been named as a "facilitating subject" by the Russell Group of universities, which means it can be useful for getting onto a wide range of university courses. Common ones include: Physics and all types of engineering as well as biochemistry, biology, chemistry, medicine, dentistry, nursing and other practice-based medicine courses, architecture, computer science, geography, earth and environmental sciences, maths, materials science, pharmacy, sports science, surveying, psychology, teaching.

Links with other subjects:

A level biology partners well with Maths, Biology and Chemistry.