Physics - A Level



Measurements and their errors All measurements must include uncertainty. How do we understand and minimise this?

Students will use their intellectual confidence with a range of advanced concepts and techniques.



Particles and Radiation At the frontiers of modern physics, these are the fundamental properties of Nature.



Year

12

Waves The in-depth study of the properties of waves and the application of this understanding to modern technology.



Synoptic thinking – linking concepts and ideas from other areas of study.



6000

Independence in choosing areas of further and self-study and meeting deadlines for coursework. Mechanics, Materials and Energy The principles and applications underpinning many aspects of engineering, transport and technology.

Electricity

For over two centuries, scientists have studied electricity. Now a fundamental part of daily life, this topic covers the foundations of electrical engineering.



Physics - A Level

Thermal physics

Thermal physics considers the relationship between temperature, energy and the physical properties of materials and derives the properties of gases from a kinetic theory of matter.



Linking

Building on year 12 synoptic thinking – linking concepts and ideas from previous areas of study.

R

Further Mechanics

Building on Year 12 study, further mechanics considers circular motion, oscillations and resonance – ideas which can be applied to acoustic, atomic and electrical systems.



Fields

Students will develop a deeper understanding of the fundamental gravitational and electrostatic forces and the concept of a field, and apply these ideas to modern technologies.

R



Increased self-reliance to study deeply and meet course deadlines.





Nuclear Physics

Extending year 12 studies, this topic builds on landmark experiments which established our modern description of the atom, radiation its uses and hazards and nuclear power.

Options

Students get the chance to pick 1 optional topic to study and will form part of their assessment in Paper 3. The topics available to choose are:

- Astrophysics
- Medical physics
- Engineering physics
- Turning points in physics
 - Electronics



A Level Assessment:

Students are assessed by 3 written exams at the end of Year 13:

- 1. Periodic motion 2hr 34% of grade
- 2. Thermal physics 2hr 34% of grade
- 3. Practical skills and data analysis, and topic specific questions 2hr 32% of grade