

Physics

Course content

Students studying A level Physics will cover a range of key concepts such as particle physics, wave-particle duality, the photoelectric effect and atomic energy levels. There is also an electricity section that develops concepts like current, voltage and resistance in direct current circuits. Students will get a more in-depth treatment of topics like kinematics, dynamics, statics and energy that they were introduced to during their GCSE. This is combined with a study of the properties of materials to complete the mechanics component. Additionally, there is also a study of the properties of waves, which includes a look at progressive and standing waves, refraction, diffraction and interference.

The syllabus provides a choice of optional topics such as astrophysics. This gives students a view of the universe at large including dark matter and energy, black holes and quasars along with knowledge of the tools used by astronomers to see to the edge of space and time.

A level physics is a two-year qualification that involves a practical endorsement. The practical endorsement is an assessment of a student's skills and competency when completing core practicals.

The following topics are studied during A level physics:

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity
- Further mechanics and thermal physics
- Fields and their consequences
- Nuclear physics

Optional topics:

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

Entry requirements

Grade 5 in GCSE English and Grade 6 in GCSE Physics and Maths

Assessment

1. **Periodic Motion** – 2 hours (written paper) – 85 marks - 34% of A-level
2. **Thermal Physics** – 2 hours (written paper) – 85 marks - 34% of A - level
3. **Practical Skills & Data Analysis** – 2 hours (written paper) - sections A & B – 80 marks – 32% of A – level

Progression

A-level Physics is a stepping-stone to future study. Having a qualification in A-Level Physics will equip you with sought after skills in Banking, Logistics, Management, Game Design and a host of other

industries. It is invaluable for studying medicine and other related subjects as well as engineering and a wide range of technological subjects. Studying Physics beyond A-Level also opens up opportunities for exciting and well-paid careers. Physics graduates are found working in a range of professions as diverse as patent lawyers, brewing technologists, investment bankers, architects and acoustic engineers as well as the more traditional careers in research and teaching.