

AS and A-level Physics

Physicists explore the fundamental nature of almost everything we know of. 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.

Possible degree options

According to **bestcourse4me.com**, the top seven degree courses taken by students who have an A-level in Physics are:

- Mathematics
- Physics
- Mechanical Engineering
- Computer Science
- Civil Engineering
- Economics
- Business.

Possible career options

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.

Find out more
aqa.org.uk/science



Topics covered

AS Physics lasts one year, with exams at the end. A-level Physics lasts two years, with exams at the end of the second year. The table below shows the topics covered in each year.

AS and first year of A-level	Second year of A-level
Measurements and their errors	Further mechanics and thermal physics
Particles and radiation	Fields
Waves	Nuclear physics
Mechanics and energy	Plus one option from the following – ask your teacher which is offered at your school or college
Electricity	Astrophysics
	Medical physics
	Engineering physics
	Turning points in physics
	Electronics

Practicals

Physics, like all sciences, is a practical subject. Throughout the course you will carry out 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
- safe use of ionising radiation
- investigating magnetic fields.

These practicals will give you the skills and confidence needed to investigate the way things behave and work. It will also ensure that if you choose to study a Physics-based subject at university, you'll have the practical skills needed to carry out successful experiments in your degree.

Exams

There is no coursework on this course. However, your performance during practicals will be assessed.

There are three exams at the end of the two years for A-level, all of which are two hours long. At least 15% of the marks for A-level Physics are based on what you learned in your practicals.

The AS has two exams at the end of the year. Both are 1 hour 30 minutes long.

Entry requirements

Every school and college sets its own entry requirements. A-level Physics builds on the work done in GCSE Science and Maths, so you'll need good GCSE results from both. Written communication is also important and you'll need to be a strong writer. If you're interested in studying Physics after your GCSEs, ask your teacher about the qualifications you'll need.

“Time and space are finite in extent, but they don't have any boundary or edge. They would be like the surface of the earth, but with two more dimensions.”

Stephen Hawking, Theoretical Physicist, Cosmologist and Director of Research at University of Cambridge. Author of *A Brief History of Time*.