AQA A-level Physics (AS and A2)

What does this qualification cover?

Physics is the natural science that studies matter, its fundamental constituents, its motion and behaviour through space and time, and the related entities of energy and force. Physics is one of the most fundamental scientific disciplines, and its main goal is to understand how the universe behaves. At UTC Heathrow, we recognise that having a firm grasp on the workings of our universe is essential for our students to go out into the world as the engineers and scientists of tomorrow.

This qualification equips our students with the intermediate and higher level tools for deconstructing our world around us, via the beauty and elegance of mathematical frameworks. It also challenges our students to develop mastery in key practical areas, for we believe that Physics is fundamentally an experimental subject. This qualification provides numerous opportunities to use practical experiences to link theory to reality, and equip students with the essential knowledge & skills they need for thriving careers and destinations in STEM fields.

What's included?

Core content

1. Measurements and their errors
2. Particles and radiation
3. Waves
4. Mechanics and materials
5. Electricity
6. Further mechanics and thermal physics
7. Fields and their consequences
8. Nuclear physics

Plus, one of the following optional units:

- Astrophysics
- Medical physics

- Turning points in physics
- Engineering physics (re-branded Applied physics)
- Electronics.

At the end of year 13, our students sit 3 papers in Physics, each one worth 85 marks and 2 hours long. Students will receive one grade for A2 Physics.

Key features

- At least 12 required practical experiments over the two-year course, allowing for plenty of opportunities to develop key competencies
- Comprehensive schemes of work and pedagogy, as well as access to past papers, mark schemes, examiner reports, specimen papers and a vast array of resources developed by our experienced teaching staff
- State-of-the-art laboratories to hone and refine practical skills, and regular monitoring of the skills and knowledge of the course
- Links to other STEM disciplines like Mathematics and Engineering

Links to workplace

Industries employing physicists are varied and include:

- aerospace and defence
- education
- energy and renewable energy
- engineering
- health and medicine
- instrumentation
- manufacturing
- meteorology and climate change
- nanotechnology
- oil and gas
- science and telecommunications.

Physics graduates also move into careers outside of science. Popular options include banking and finance, as well as the software, computing and consultancy industries. Other areas include accountancy, law and transport.