



Have you ever wondered ...

- Why the channel tunnel entries are so far from the coast?
- Does light really travel in a straight line?
- Why music sounds so bad when played from a mobile phone?
- Why the base of a laptop gets so hot?
- Why the universe behaves the way it does?

A Level Physics B

Physics A Level is one of the most universally accepted qualifications for progression to university. The course content covers the basis of how things work, from the constituent parts of atoms to the extent of the universe. You will integrate the concepts studied with a range of practical experiments throughout each topic giving the course both an academic and practical focus. You will learn to apply your knowledge of the key concepts to solve problems with an emphasis on contexts and applications.

Key features

- OCR Physics B (Advancing Physics) is the leading alternative physics specification, with its origins in a collaboration between the Institute of Physics and the Institution of Engineering and Technology.
- Includes the fundamentals of digital imaging and data transfer calculations
- Places knowledge and understanding firmly in the context of problem solving of real applications of physics and technology.

What's included?

- Development of practical skills in physics
- Fundamental data analysis
- Imaging and signalling
- Sensing
- Mechanical properties of materials
- Waves and quantum behaviour
- Space, time and motion
- Creating models
- Out into space
- Our place in the universe
- Matter: very simple
- Matter: hot or cold
- Electromagnetism
- Charge and field
- Probing deep into matter
- Ionising radiation and risk.

How will you be assessed?

- The examinations in Physics B (Advancing Physics) are all **synoptic**, meaning that they cover all the content of the course.
- Total of **6 hours** of examinations (2 x 2 hours 15 minutes and 1 x 1 hour 30 minutes) taken at the end of the course.
- A **wide range** of question types which include **multiple choice, short answer** and **extended response** questions.

What are the benefits?

- The Physics B course gives a real **practical** idea of how things work.
- **Essential** for access to physics and engineering courses.
- **Highly regarded** for other subjects such as medicine, law and economics because of the **thinking skills** and **problem solving** involved.
- Subject cross-over with maths and chemistry. Makes Maths, Physics and Chemistry a **powerful combination** to optimise your A Level grades.

Practical endorsement

Wide range of **practical experience** incorporating apparatus, skills and techniques.

With experiments such as;

- Measuring resistance in a circuit with various resistor combinations
- Obtaining a value for absolute zero
- Analysing the discharge of a capacitor
- Obtaining a value for 'g' from a pendulum.

Are you . . . ?

- Interested in how Physics applies to the '**real world**'?
- Wanting to **study engineering**?
- Interested in **STEM** careers?
- Curious about **how things work**?
- Always looking to **solve problems**?
- Wanting a qualification that is **appropriate for entry** into many different areas of study at university?
- Interested in doing a wide variety of **practical experiments** to test hypotheses?

Where can the qualification take me?

STEM degrees

Engineering:

Aeronautical, Mechanical, Automotive, Chemical, Civil, Electrical, Electronic, Sound and Structural Engineering as well as Materials Science, Robotics and Software Design.

Physics:

Acoustics, Astronomy, Astrophysics, Computing, Cosmology, Environmental Physics, Experimental Physics, Forensic Science, Geophysics, Medical Physics, Meteorology, Nuclear Physics, Particle Physics, Photonics.

Advanced apprenticeships in industry, such as aerospace, nuclear power generation and electrical power distribution.

Thought provoking questions

- If you are, gravitationally speaking, attractive?
- Is it really true that what goes up must come down?
- Can we measure anything without affecting the value of the measurement?
- How do particle accelerators work?
- How electricity is generated?
- How we measure distances to astronomical objects?
- How an image is formed on a computer screen?
- How images and information are sent digitally?