WJEC GCE PHYSICS

Why choose WJEC GCE Physics?

Physics provides the foundations for understanding the material world. Scientific understanding is changing our lives and is vital to the world's future prosperity. Gaining an A-level in this subject opens up a vast range of opportunities for both university degrees and career options.

What will I study?

In **AS Physics** there are two themed units, which are normally assessed at the end of the first year of study.

Unit 1: Motion, Energy and Matter.
This unit covers the topics of basic physics, kinematics, dynamics, energy concepts, solids under stress, using radiation to investigate stars and particles and nuclear structure.

Unit 2: Electricity and Light.
This unit covers conduction of electricity, resistance, D.C. circuits, the nature of waves, wave properties, refraction of light, photons and lasers.

In **A level Physics** there are a further two themed units which are assessed at the end of the second year of study.

Unit 3: Oscillations and Nuclei.
This unit covers the topics of circular motion, vibrations, kinetic theory, thermal physics, nuclear decay and nuclear energy.

Unit 4: Fields and Options.
This unit covers capacitance, electrostatic and gravitational fields of force, orbits and the wider universe, magnetic fields and electromagnetic induction. There is also a choice of one option topic from the following: Alternating Currents, Medical Physics, The Physics of Sports or Energy and the Environment.

GCE PHYSICS

What skills will I develop?

- A level physics will enable you to develop an understanding of different areas of physics and how they relate to each other.
- Competency in a variety of investigative and practical techniques.
- The ability to apply appropriate mathematical skills in physics contexts.
- The confidence to apply physics knowledge to unfamiliar contexts.
- You will be able to analyse, interpret and evaluate scientific information.
- A level physics also develops your problem solving and reasoning skills which are skills that are highly valued by employers.

How will I be assessed?

AS Physics: Two written examinations

Unit 1: Motion, Energy and Matter Written examination 80 marks (1 hour 30 minutes)
Unit 2: Electricity and Light Written examination 80 marks (1 hour 30 minutes)

A level Physics. The above plus a further three units. In these units there is a requirement for synoptic questions to be present, so some content from the units other than the one being assessed will be present.

Unit 3: Oscillations and Nuclei Written examination 100 marks (2 hours 15 minutes)
Section A: 80 marks compulsory questions
Section B: 20 marks compulsory comprehension question

Unit 4: Fields and Options Written examination 100 marks (2 hours)
Section A: 80 marks compulsory questions
Section B: 20 marks from a choice of 1 out of 4 options

Unit 5: Practical examination
This unit will assess your practical skills developed over the duration of the course. It comprises two tasks which will be completed on set dates in the Spring term of the second year of study.

- **Experimental task 25 marks (1 hour 30 minutes)**
  You will be given a set of apparatus and an experimental problem to investigate.
  You will carry out the investigation and analyse and evaluate the data.
- **Practical Analysis Task 25 marks (1 hour)**
  You will be provided with experimental data to analyse.

Careers with Physics

An A level in Physics can open up a wealth of career paths. These include jobs within the following fields: Medicine and healthcare, Science and research, Aerospace and defence, Engineering, Energy and renewable energy, Meterology and climate change, Telecommunications and Education.