

PHYSICS

WJEC A LEVEL

The subject explores a vast range of ideas and theories from the wonders of the universe to the sub-microscopic world of quarks and exotic particles. The whole of our technological world relies on the principles of Physics and the course is a rewarding, yet challenging exploration of these ideas.

The Course Involves:

Year One

- **Unit 1 - Motion, Energy and Matter** - basic physics, kinematics, dynamics, energy concepts, solids under stress, using radiation to investigate stars, and particles and nuclear structure
- **Unit 2 - Electricity and Light** - conduction of electricity, resistance, D.C. circuits, the nature of waves, wave properties, refraction of light, photons and lasers

Year Two

- **Unit 3 - Oscillations and Nuclei** - circular motion, vibrations, kinetic theory, thermal physics, nuclear decay and nuclear energy
- **Unit 4 - Fields and Options** - capacitance, electrostatic and gravitational fields of force, orbits and the wider universe, magnetic fields and electromagnetic induction

Assessment

AS - Two Written Examinations - 40%

A Level - Two Written Examinations - 50%
- One Practical Assessment - 10%

Written examinations will assess:

- Theoretical Knowledge
- Practical Skills
- Mathematical Skills

Particular Subjects, Skills or Interests

As a minimum, students will require:

- a) A GCSE grade B/6 in Physics & one other Science subject grade B/6 or
- b) A GCSE B/6 grade in the Higher Double Award Science or
- c) A GCSE B grade in Core & Additional Science, Higher Tier

Students are also required to have a grade B/6 in Mathematics as this course has a mathematics module worth 10%.

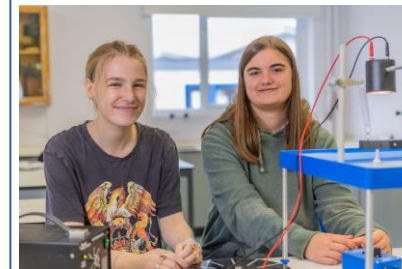
Post-18 Opportunities

Architecture, Astrophysics, Engineering, Electronic Engineering, stock markets around the world, Medical Physics, Energy, Research and Finance.

Subject Leader: Mr S Jones

Subject Champions

2021/22



Alex Goff

Studying: Welsh Baccalaureate, Maths, Physics and Product Design.

Future aspirations: to study geo-physics or Engineering at university.

Bronwyn Gurr

Studying: Welsh Baccalaureate, Further Maths, Maths and Physics.

Future aspirations: to study mathematics at university.

"This is a fascinating course and applies to everything in our Universe. The topics are interesting and challenging eg "Higgs Boson" in Particle Physics. During lessons you will be applying your mathematical skills, so studying A Level maths alongside Physics definitely helps. The teachers are really helpful, approachable and offer guidance and support throughout the course."