

# 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 GCSE grade B/6 in Physics & one other Science subject grade B/6 or
- A GCSE B/6 grade in the Higher Double Award Science or
- 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

2020/21



#### Bronwyn Gurr

**Studying:** Physics, Biology, Chemistry, Maths & Welsh Baccalaureate.

**Future aspirations:** to study physics at university.

#### Cameron Dennis

**Studying:** Physics, Maths, Further Maths, Computer Science & Welsh Baccalaureate.

**Future aspirations:** to study computer science at university.

*“Physics is a captivating subject that allows you to apply mathematical knowledge to problems. Our teachers are supportive and they actively encourage the use of past papers to help develop our exam technique and subject knowledge.”*