Maelor Sixth



Physics
WJEC A Level

Subject Leader: Mr S Jones

Introduction

A Level Physics 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

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 laser

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
- Unit 5 - Practical examination - paper 1: practical activity task, paper 2: data analysis task

Assessment

AS - Year 12
Examinations taken in the summer term of Year 12:
Unit 1 - written examination worth 20% of the full A Level.
Unit 2 - written examination worth 20% of the full A Level.

A Level - Year 13
Examinations taken in the summer term of Year 13:
Unit 3 - written examination worth 25%
Unit 4 - written examination worth 25%
Unit 5 - practical examination worth 10%



Entry Requirement

As a minimum, students will require:

- GCSE grade B/6 in Physics and another Science subject grade B/6
  or
- GCSE grade B/6 in the Higher Double Award Science
  or
- GCSE grade B/6 in Core & Additional Science, Higher Tier

- GCSE grade B/6 in Mathematics as this course has a mathematics module worth 10%

- GCSE grade C/4 in English



Links to Future Careers

Physics is particularly useful in combination with any other A Level science subject and A Level Mathematics and is vital for anyone thinking of pursuing a career in engineering or medicine. In addition Physics delivers a unique skill set that is also well valued by Universities and employers in the Finance, Business, Technology and AI sectors.

A Level Physics will give you incredibly strong analytical and research skills. You will be able to come at problems and solve them in a methodical and logical way. You will be able to investigate theories, devise tests and explore innovative ideas. Furthermore, you will develop numerical skills to solve complex abstract problems which will benefit any aspiring engineers and support laboratory write ups and design specifications.

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