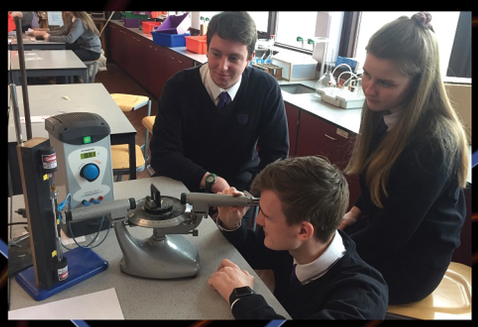
Physics



"The subject is very challenging but is also very interesting. Everything starts to make more sense from GCSE. However, I would recommend that you have a passion for the subject outside of schoolwork which will motivate you when the work gets tough."

Megan Elias

"Choosing physics was a great decision as it has broadened my previous knowledge and enlightened me to fascinating scientists and theories which comply to our every life! Being able to reenact historical experiments has led me to think about our daily surrounding more closely and what exactly is happening!"

Arwyn Foulkes

Why study Physics?

The Physics A level course includes many interesting topics such as Quantum Physics, Superconductivity, Lasers, and even Astronomy (AS Level : using radiation to gain insights into the properties and make-up of stars ;
A Level : analysis of the movement of planets, stars and galaxies leading to the idea of 'dark matter').

The WJEC also offers 4 different 'options' (see A2, Unit 4, below). This allows the Physics Department to tailor the course in the best interests of the candidates.

Entry requirements

You'll need to achieve a B grade or above in Double Science or Physics (GCSE), although an A grade or above is more likely to ensure that the student will cope with the demands of the course, and studying AS level Mathematics is also an advantage, but is not essential.

Course details and assessment format

AS

Unit 1 - Basic Physics, Kinematics, Particle Physics and Stellar radiation
AS [50%] A2 [20%]

Unit 2 - Waves & Light, Electricity and circuits, Quantum Physics & Lasers
AS [50%] A2 [20%]

A2

Unit 3 - Circular motion, Oscillations, Thermal Physics, Radiation and Nuclear Energy (E=mc2!) A2 [25%]

Unit 4 - Capacitors, Electrostatic and Gravitational Fields, Orbits and the Universe (Kepler's laws, Dark matter and Extra-solar planets), Magnetism and Induction, + 1 of 4 OPTIONS : Medical Physics, The Physics of Sports, Alternating Current Theory, Energy and the Environment. A2 [25%]

Unit 5 - Practical examinations in two parts. A2 [10%]

Skills which are developed and possible progression

Studying A level Physics develops problem solving skills, the ability to think objectively, and analytical skills. The course will also develop practical skills which are crucial in many working environments. An A level qualification in Physics will create a firm and thorough foundation for a future in academia or industry, and is widely recognized as a subject that facilitates access to many exciting career options, e.e. Astronomy, Engineering, Electronics, Mathematics, Technology, Architecture, Chemistry, Biological Science and Medicine, Robotics, and Computer science.