

International Baccalaureate Physics

@ Durham Sixth Form Centre

"Not only is the universe stranger than we imagine it is stranger than we can imagine"

- Sir Arthur Eddington

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself, from the very smallest of particles – quarks (perhaps 10-17 m) – to the vast distances between galaxies (10²⁴ m)

(taken from the IB subject Guide for physics)

The IB Physics course is designed to give the students the skills to use their natural curiosity to investigate the world around them, and the knowledge needed to understand it. Building concepts and models through a combination of theory and practical investigation IB learners strive to gain an in-depth knowledge of Physics and its significance in our lives.

Courses:

Standard Level (150 hours)

Higher Level (240 hours)

Course Content:

Core

Measurement, Mechanics, Thermal Physics
Oscillations and Waves, Electric currents
Fields and Forces, Atomic and Nuclear Physics
Energy, Power and Climate Change.

Options

Quantum and Nuclear Physics, Digital Technology, Electromagnetic Waves, Medical Physics, Particle Physics.

The Standard Level and Higher Level courses cover the same material, but Higher Level students go into more depth. The HL students choose four option topics, the SL students two.

Group 4 Project and Assessment:

All students will undertake a project where they will work in an interdisciplinary team to study real life applications of all the sciences. In addition practical tasks are internally assessed throughout the course. Written papers are:

Paper 1 Multiple choice questions (1 Hour)

Paper 2 Short and long questions plus data handling (2¼ Hours)

Paper 3 Short and long questions on option topics (1¼ Hours)

The exams for the Standard Level have a similar structure but are shorter in length.

Internationalism:

The IB course emphasises the international aspects of scientific endeavour and encourages the cooperation of schools in different countries, we have links with the OSZ Lise Meitner School of Science in Berlin, and will continue to visit CERN in Geneva to see the work of the most international group of experimental Physicists in the world today.

"The important thing in science is not so much to obtain more facts as to discover new ways of thinking about them"

Sir William Bragg.

