

IB Physics

The IB physics course is more traditional in style and structure compared with the Advancing Physics course, though the 'core and options' aspect allows the student to study in depth two key areas of interest in the subject.

Physics is viewed as the fundamental science which attempts to explain all observations of the natural and physical world in terms of laws related to matter and energy. Students are made aware of the connections between the domains of physical laws, experimental skills and social and historical aspects of physics. The main text book used is *Physics for the IB Diploma* from Cambridge University Press.

Assessed coursework is fully integrated within the practical work of each topic in the programme of study. Here the students will have the opportunity to develop a detailed and extensive Practical Investigation portfolio.

IB students are required to complete a "Group 4" project, during which they collaborate with other scientists from the full range of subjects. Throughout the programme, their personal skills, ability to work independently and awareness of wider ethical aspects of the subject are assessed.

Standard Level Physics

Students study the following core subjects:

- Physics and physical measurement (considering the realm of Physics and measurement techniques)
- Mechanics
- Thermal physics
- Oscillations and waves
- Electricity currents
- Fields and forces
- Atomic and nuclear physics
- Energy, power and climate change

Plus two option topics from:

- Astrophysics
- Communications
- Electromagnetic waves
- Relativity
- Medical physics
- Particle physics.

Assessment is broken down as follows:

24% of Practical Work with a minimum requirement of 40 hours

76% Examinations:

Paper 1: 30 multiple choice questions (20%)

Paper 2: Structured and extended response questions on option topics (32%)

Paper 3: Structured and extended response questions on two option topics (24%)

Higher Level Physics

Students study the following core subjects:

- Physics and physical measurement
- Mechanics, Thermal physics
- Oscillations and waves
- Electric currents
- Fields and forces

- Atomic and Nuclear Physics
- Energy, power and climate change
- Motion in fields
- Thermal physics
- Wave phenomena
- Electromagnetic induction
- Quantum physics and nuclear physics
- Digital technology

Plus two option topics from:

- Sight and wave phenomena
- Quantum physics and nuclear physics
- Digital technology
- Relativity and particle physics
- Astrophysics
- Communications
- Electromagnetic waves.

Assessment is broken down as follows:

24% of Practical Work with a minimum requirement of 60 hours

76% Examinations:

Paper 1: 40 multiple choice questions (20%)

Paper 2: Structured and extended response questions on option topics (36%)

Paper 3: Structured and extended response questions on two option topics (20%)