



# PHYSICS

INTERNATIONAL  
BACCALAUREATE

## WHY SHOULD I STUDY IB PHYSICS?

Physics is the ultimate subject to study if you wish to investigate how our universe works – from the forces and energy that drive everything, to the matter that makes up stars and people, to the waves that allow us to communicate. The scales range from the Quantum Physics of the tiny to the astrophysics and gravitation of the immense. Physics explores the fundamental concepts underlying other scientific disciplines and allows the scientific method to be practised and applied to many experiences and challenges.

## WHAT WILL I LEARN ABOUT?

The IB course consists of 8 core topics for Standard level (95 hours): Measurements and uncertainties, Mechanics, Thermal Physics, waves, electricity and magnetism, Circular motion and gravitation, Atomic, Nuclear and Particle Physics, energy production. The four additional Higher Level (60 hours) topics are: Wave phenomena, Fields, Electromagnetic induction, Quantum and Nuclear Physics. One of the following options topics (15 or 25 hours): Relativity, Engineering physics, Imaging, Astrophysics. These topics are developed and reinforced by a practical scheme of work (40 or 60 hours).

## HOW WILL I BE ASSESSED?

There are three exam papers: Paper 1 – Multiple choice – all topics; Paper 2 – Extended response paper – All topics; Paper 3 – Data analysis, experimental skills and option topic.

## WHAT SKILLS WILL I DEVELOP?

Physicists will develop and use a range of skills during the course, including: numeracy, data analysis, communication, concluding and evaluating, data logging, ICT, planning, manipulative skills, time management, problem solving, teamwork, research. These skills are developed through academic progress in the subject as well as through the investigative and practical approach taken to develop, understand and apply concepts.

## WHERE COULD THIS SUBJECT TAKE ME IN THE FUTURE?

Physics is a key subject for Engineering, Architecture, Medical physics, Geoscientists, Meteorology, Oceanography, Teaching, Communications etc. The skills and concepts covered allow a physicist to approach many subject areas due to the ability to apply the underlying principles and skills to new challenges.

