

# IB PHYSICS

## **Measurements and Uncertainties**

- Measurements in Physics
- Uncertainties and Errors
- Vectors and Scalars

## **Mechanics**

- Motion
- Forces
- Work, Energy and Power
- Momentum and Impulse

## **Thermal Physics**

- Thermal Concepts
- Modeling a Gas

## **Waves**

- Oscillations
- Traveling Waves
- Wave Characteristics
- Wave Behavior
- Standing Waves

## **Electricity and Magnetism**

- Electric Fields
- Heating Effect of Electric Currents
- Electric Cells
- Magnetic Effects of Electric Currents

## **Circular Motion and Gravitation**

- Circular Motion
- Newton's Law of Gravitation

## **Atomic, Nuclear, and Particle Physics**

- Discrete Energy and Radioactivity
- Nuclear Reactions
- The Structure of Matter

## **Energy Production**

- Energy Sources
- Thermal Energy Transfer



**Wave Phenomena Additional Higher Level (AHL)**

- Simple Harmonic Motion
- Single-Slit Diffraction
- Interference
- Resolution
- Doppler Effect

**Fields (AHL)**

- Describing Fields
- Fields at Work

**Electromagnetic Induction (AHL)**

- Electromagnetic Induction
- Power Generation and Transmission
- Capacitance

**Quantum and Nuclear Physics (AHL)**

- The Interaction of Matter with Radiation
- Nuclear Physics

**Relativity (Option)**

- The Beginnings of Relativity
- Lorentz Transformations
- Spacetime Diagrams
- Relativistic Mechanics (AHL)
- General Relativity (AHL)

**Engineering Physics (Option)**

- Rigid Bodies and Rotational Dynamics
- Thermodynamics
- Fluids and Fluid Dynamics (AHL)
- Force Vibrations and Resonance (AHL)

**Imaging (Option)**

- Introduction to Imaging
- Imaging Instrumentation
- Fiber Optics
- Medical Imaging (AHL)

**Astrophysics (Option)**

- Stellar Quantities
- Stellar Characteristics and Stellar Evolution
- Cosmology
- Stellar Processes (AHL)
- Further Cosmology (AHL)

