



Enseignement secondaire		
Classes internationales		
	Régime anglophone	
Physique		
Programme		
2IEC_1IEC		

Leçons hebdomadaires: Standard level: 3 High level : 5
Langue véhiculaire: anglais
Nombre minimal de devoirs par trimestre: 1

Syllabus for Physics 2IEC_+IEC

Theory

	<u>Core Topics</u>		<u>Contents</u>
1	Measurements	Measurements in physics Uncertainties and errors Vectors and scalars	Common to standard and high level
2	Mechanics	Motion Forces Work, energy and power Momentum and impulse	Common to standard and high level
3	Thermal physics	Thermal concepts Modelling a gas	Common to standard and high level
4	Waves	Oscillations Travelling waves Wave characteristics Wave behavior	Common to standard and high level See Topic) for Additional



		Standing waves	Higher Level (AHL)
5	Electricity and magnetism	Electric fields Heating effects of electric currents Electric cells Magnetic effects of electric currents	Common to standard and high level
6	Circular motion and gravitation	Circular motion Newton's law of gravitation	Common to standard and high level
7	Atomic, nuclear and particle physics	Discrete energy and radioactivity Nuclear reactors The structure of matter	Common to standard and high level
8	Energy production	Energy sources Thermal energy transfer	Common to standard and high level
9	Wave phenomena	Simple harmonic motion Single-slit diffraction Interference Resolution Doppler effect	Additional higher level (AHL)
10	Fields	Describing fields Fields at work	AHL
11	Electromagnetic induction	Electromagnetic induction Power generation and transmission Capacitance	AHL
12	Quantum physics	The interaction of matter with radiation Nuclear physics	AHL



O P T I O N S	A. Relativity	The beginnings of relativity Lorentz transformations Space-time diagrams	Common to standard and high level
		Relativistic mechanics General relativity	AHL
	B. Engineering physics	Rigid bodies and rotational dynamics Thermodynamics	Common to standard and high level
		Fluids and fluid dynamics Forced vibrations and resonance	AHL
	C. Imaging	Introduction to imaging Imaging instrumentation Fibre optics	Common to standard and high level
		Medical imaging	AHL
	D. Astrophysics	Stellar quantities Stellar characteristics and stellar evolution Cosmology	Common to standard and high level
		Stellar processes Further cosmology	AHL



General information:

- The contents of the syllabus are fixed by the IB organisation.
- The syllabus for classes 12 and 13 cannot be separated into 2 entities the diploma programme covering 2 years and there being no prescribed chronological order.
- The course comprises experiments, simulations and use of ICT.
- Students have to perform a personal project counting for 24% of their final mark in the exam.
- It is advised to do the personal project experiments during year 12 before the summer break leading to year 13.
- Students write 3 exams papers (one of which is a multiple choice paper) counting for a total of 76% of the exam mark.