

Syllabus content

Recommended teaching hours

Core	95 hours
Topic 1: Measurements and uncertainties	5
1.1 – Measurements in physics	
1.2 – Uncertainties and errors	
1.3 – Vectors and scalars	
Topic 2: Mechanics	22
2.1 – Motion	
2.2 – Forces	
2.3 – Work, energy and power	
2.4 – Momentum and impulse	
Topic 3: Thermal physics	11
3.1 – Thermal concepts	
3.2 – Modelling a gas	
Topic 4: Waves	15
4.1 – Oscillations	
4.2 – Travelling waves	
4.3 – Wave characteristics	
4.4 – Wave behaviour	
4.5 – Standing waves	
Topic 5: Electricity and magnetism	15
5.1 – Electric fields	
5.2 – Heating effect of electric currents	
5.3 – Electric cells	
5.4 – Magnetic effects of electric currents	

Topic 6: Circular motion and gravitation	5
6.1 – Circular motion	
6.2 – Newton's law of gravitation	
Topic 7: Atomic, nuclear and particle physics	14
7.1 – Discrete energy and radioactivity	
7.2 – Nuclear reactions	
7.3 – The structure of matter	
Topic 8: Energy production	8
8.1 – Energy sources	
8.2 – Thermal energy transfer	
Additional higher level (AHL)	60 hours
Topic 9: Wave phenomena	17
9.1 – Simple harmonic motion	
9.2 – Single-slit diffraction	
9.3 – Interference	
9.4 – Resolution	
9.5 – Doppler effect	
Topic 10: Fields	11
10.1 – Describing fields	
10.2 – Fields at work	
Topic 11: Electromagnetic induction	16
11.1 – Electromagnetic induction	
11.2 – Power generation and transmission	
11.3 – Capacitance	
Topic 12: Quantum and nuclear physics	16
12.1 – The interaction of matter with radiation	
12.2 – Nuclear physics	