



Physics: Curriculum Overview
Year 12

Term	Topic studied	What will I learn?	How will I be assessed?
Year 12 Autumn	<i>Teacher 1</i>		
	<i>Practical Skills</i>	<i>Experimental design Data Graphs Error analysis Uncertainty calculations</i>	Practical assessment - Determining Planks constant. 4 week test
	<i>Particles and Radiation</i>	<i>Atomic Structure Stable and unstable nuclei Antiparticles and photons Hadrons and Leptons Strange particles and conservation of properties Quarks and Anti-Quarks Particle interactions</i>	End of unit test
	<i>Electromagnetic and Quantum Phenomena</i>	<i>The photoelectric effect Energy Levels in Atoms Wave particle duality</i>	End of unit test
	<i>Teacher 2</i>		
	<i>Waves</i>	<i>Progressive waves Wave speed Transverse and longitudinal waves Superposition and interference Stationary waves Investigating resonance Diffraction Two-Source interference Young's Double-Slit Experiment Diffraction gratings Refractive Index Critical Angle and TIR</i>	4 week test Practical assessment – Investigating Resonance Practical assessment - Stationary waves End of unit test

<p>Year 12 Spring</p>	<p>Teacher 1</p> <p>Mechanics Scalar Vectors and Equilibrium</p> <p>Force & Motion - Kinematics</p> <p>Teacher 2 Materials</p>	<p>Scalars and Vectors Forces in Equilibrium Moments Centre of Mass and Moments</p> <p>Uniform acceleration Displacement Time Graphs Velocity Time Graphs Acceleration Time Graphs Newtons Laws of Motion Acceleration due to gravity Projectile motion</p> <p>Density Hooke's Law Stress and Strain Young's Modulus Stress-Strain and Force-Extension Graphs Brittle Materials</p>	<p>End of topic test</p> <p>Practical assessment - Measuring g</p> <p>End of topic test</p> <p>Practical assessment – Young's Modulus</p> <p>End of topic test</p>
<p>Year 12 Summer</p>	<p>Teacher 1 Mechanics Force & Motion – Dynamics, Work and Power</p> <p>Teacher 2</p> <p>Electricity</p> <p>After year 12 Exam</p> <p>Teacher 1 Review of year 12 exams</p> <p>Begin y13 topic of study Gravitational Fields</p> <p>Teacher 2 Begin y13 topic of study Further Mechanics</p>	<p>Drag lift and terminal speed Conservation of momentum Force Momentum and Impulse Work and Power Conservation of Energy</p> <p>Circuit Diagrams Current and Potential Difference Resistance I-V Characteristics Resistance Determining the resistivity of a Wire Power and Electrical Energy E.m.f. and Internal Resistance Conservation of Energy and Charge in Circuits Potential Dividers</p> <p>Gravitational Fields Gravitational Field Strength Gravitational Potential Orbits</p> <p>Circular Motion Centripetal Force and Acceleration Simple Harmonic Motion Calculations with SHM The Mass-Spring System as a Simple Harmonic Oscillator The Simple Pendulum and other types of SHO Free and Forced Vibrations</p>	<p>End of topic test</p> <p>Practical assessment - Determining the resistivity of a Wire Practical assessment - E.m.f. and Internal Resistance</p> <p>End of topic Test - Electricity</p> <p>Year 12 Exam - Based on AS content</p> <p>End of topic test - Gravitational Fields</p> <p>End of topic test - Further mechanics</p>