

Curriculum Map

Subject: Physics

Year: 12



	Autumn	Autumn	Spring	Spring	Summer	Summer
Content Knowledge	<p>Particle Physics:</p> <ul style="list-style-type: none"> Stable and unstable nuclei Particle and antiparticles Particle Zoo (quarks and leptons) Particle Interactions Energy levels and wave-particle duality 	<p>Mechanics and Materials:</p> <ul style="list-style-type: none"> Principle of moments Equilibrium rules Projectile Motion Momentum and Impulse Elastic and Inelastic Collisions Stress and Strain Young's Modulus <p>Required Practical:</p> <ul style="list-style-type: none"> Investigating the Young's Modulus of different wires 	<p>Waves and Optics:</p> <ul style="list-style-type: none"> Standing Waves Using an oscilloscope Double Slit Interference Diffraction and diffraction grating <p>Required Practicals:</p> <ul style="list-style-type: none"> Investigating fundamental frequencies of a standing wave Investigating the fringe spacing of a diffraction grating 	<p>Electricity (1):</p> <ul style="list-style-type: none"> Current and Charge Potential Difference and Power Components and their characteristics Resistance and Resistivity <p>Required Practical:</p> <ul style="list-style-type: none"> Investigating the resistivity of a wire 	<p>Electricity (2):</p> <ul style="list-style-type: none"> Kirchoff's Current Rules Potential Dividers Electromotive force and Internal resistance <p>Required Practical:</p> <ul style="list-style-type: none"> Investigating the electromotive force (emf) of a cell 	<p>Further Mechanics:</p> <ul style="list-style-type: none"> Uniform Circular Motion Centripetal Acceleration Simple Harmonic Motion Forced Vibrations and resonance

Skills	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge Problem Solving. Team working. 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use experimental apparatus safely and correctly Manipulating mathematical equations correctly Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use experimental apparatus safely and correctly Manipulating mathematical equations correctly Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use experimental apparatus safely and correctly Manipulating mathematical equations correctly Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use experimental apparatus safely and correctly Manipulating mathematical equations correctly Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge Manipulating mathematical equations correctly Problem Solving. Team working.
Key Questions	<p>Is there something smaller than a proton and a neutron?</p> <p>What happens during nuclear decay?</p>	<p>Can you predict the trajectory a rocket will take?</p>	<p>Can waves remain stationary?</p> <p>How does a laser read the information on a CD?</p>	<p>How does current behave around a circuit?</p>	<p>Why is the voltage output of a battery not exactly what it says it is meant to be outputting?</p>	<p>How can vibrations cause resonance and cause damage to structures?</p>
Assessment	<p>Introduction assessment</p> <p>End of Topic Assessments</p>	<p>End of Topic Assessments</p> <p>CPAC's for practicals</p>	<p>End of Topic Assessments</p> <p>CPAC's for practicals</p>	<p>End of Topic Assessments</p> <p>CPAC's for practicals</p>	<p>End of Topic Assessments</p> <p>CPAC's for practicals</p>	<p>Year 12 Mock</p>

Literacy/numeracy/SMSC/Character	Literacy - Lots of new terms that students have to recall.	Numeracy – Correct manipulation of respective formulas and orders of magnitude Literacy - Some new terms that students have to recall.		Numeracy – Correct manipulation of respective formulas and orders of magnitude Literacy - Some new terms that students have to recall.	Numeracy – Correct manipulation of respective formulas and orders of magnitude Literacy - Some new terms that students have to recall.	
Enrichment opportunities and futures	Visiting the Science Museum in Central London Attending UCL lectures					