

Curriculum Map

Subject: Physics



Year: 13

	Autumn	Autumn	Spring	Spring	Summer
<p>Content</p> <p>Knowledge</p>	<p>Thermal Physics:</p> <ul style="list-style-type: none"> Internal Energy and Temperature Specific Heat Capacity Experimental Gas Laws Ideal Gas Equation Kinetic Theory of Gases <p>Required Practicals:</p> <ul style="list-style-type: none"> Investigating Boyle's and Charles' Law 	<p>Gravitational and Electric Fields:</p> <ul style="list-style-type: none"> Gravitational Field Strength Gravitational Potential Electric Field and Potential Coulomb's Law Point Charges Capacitors and Capacitance <p>Required Practicals:</p> <ul style="list-style-type: none"> Investigating the capacitance of a capacitor Investigating the motor effect 	<p>Nuclear Physics</p> <ul style="list-style-type: none"> Discovery of the nucleus Decay Modes Energy, mass and binding energy Fission and Fusion The thermal nuclear reactor <p>Required Practical:</p> <ul style="list-style-type: none"> Investigating the radioactive decay modes of alpha, beta and gamma radiation 	<p>Optional Module (Turning Points In Physics):</p> <ul style="list-style-type: none"> Wave-particle duality models of light General Relativity Time Dilation Length Contraction 	<p>Revision</p> <ul style="list-style-type: none"> To focus on recapping key knowledge and re-address common misconceptions Embed additional exam practice for each chapter Focus on key aspects of required practicals

Skills	<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 	<ul style="list-style-type: none"> • Recalling important information • Exam Technique • Spacing • Interleaving • Elaboration
Key Questions	<p>What is absolute zero?</p> <p>How can we predict the average motion of particles at a particular temperature?</p>	<p>How does the flash in your camera work?</p>	<p>Why do different elements emit different radioactive particles?</p> <p>How can we predict which decay modes will different heavy elements undertake?</p>	<p>Is time the same everywhere in the universe?</p> <p>Can objects change their length?</p>	
Assessment	<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>Year 13 A-Level Exams</p>
Literacy/numeracy/SMSC/Character	<p>Numeracy – Correct manipulation of respective formulas and orders of magnitude</p> <p>Literacy - Some new terms that students have to recall.</p>	<p>Numeracy – Correct manipulation of respective formulas and orders of magnitude</p> <p>Literacy - Some new terms that students have to recall.</p>	<p>Numeracy – Correct manipulation of respective formulas and orders of magnitude</p> <p>Literacy - Some new terms that students have to recall.</p>	<p>Numeracy – Correct manipulation of respective formulas and orders of magnitude</p> <p>Literacy - Some new terms that students have to recall.</p>	

Enrichment
opportunities
and futures

Visiting the Science Museum in Central London
Attending UCL lectures