

# Curriculum Map

Subject: Physics

Year: 13



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

<b>Skills</b>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to use experimental apparatus safely and correctly</li> <li>Manipulating mathematical equations correctly</li> <li>Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions</li> </ul>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to use experimental apparatus safely and correctly</li> <li>Manipulating mathematical equations correctly</li> <li>Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions</li> </ul>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to use experimental apparatus safely and correctly</li> <li>Manipulating mathematical equations correctly</li> <li>Recording data accurately and analysing and manipulating it appropriately to form correct logical scientific conclusions</li> </ul>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>Manipulating mathematical equations correctly</li> </ul>	<ul style="list-style-type: none"> <li>Recalling important information</li> <li>Exam Technique</li> <li>Spacing</li> <li>Interleaving</li> <li>Elaboration</li> </ul>
<b>Key Questions</b>	<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>	
<b>Assessment</b>	<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>
<b>Literacy/numeracy/SMSC/Character</b>	<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