



**Curriculum Plans – Year 12 - Physics**

Please find below a detailed outline of the curriculum covered in *Physics* through Year 12 in *Sixth Form*.

Block	1	2	3	4	5	6	7
Dates	28th August - 27th September (5 weeks)	2nd October - 27th October (4 weeks)	6th November - 15th December (6 weeks)	3rd January - 2nd February (5 weeks)	12th February - 22nd March (6 weeks)	2nd April - 26th April (4 weeks)	6th May - 21st June (7 weeks)
Topics	<p><b>Kinematics (Unit 1)</b></p> <ul style="list-style-type: none"> <li>Distance/ displacement</li> <li>Speed/ velocity</li> <li>Distance-time graphs</li> <li>Vector addition</li> </ul> <p><b>Accelerated motion (Unit 2)</b></p> <ul style="list-style-type: none"> <li>Acceleration</li> <li>Measuring acceleration</li> <li>SUVAT-equations</li> <li>Motion in 2D</li> </ul> <p><b>Dynamics (Unit 3)</b></p> <ul style="list-style-type: none"> <li>Mass and inertia</li> <li>Gravity</li> <li>Motion in fluids</li> <li>Newton's laws</li> </ul> <p><b>Forces, vectors and moments (Unit 4)</b></p> <ul style="list-style-type: none"> <li>Forces as vectors</li> <li>Center of gravity</li> <li>Torque</li> </ul> <p><b>Practical skills</b></p>	<p><b>Work, energy and power (Unit 5)</b></p> <ul style="list-style-type: none"> <li>Types of energy</li> <li>Conservation of energy</li> <li>Power</li> </ul> <p><b>Momentum (Unit 6)</b></p> <ul style="list-style-type: none"> <li>Linear momentum</li> <li>Conservation of momentum</li> <li>Impulse</li> <li>Collisions in 2D</li> </ul> <p><b>Matter and materials (Unit 7)</b></p> <ul style="list-style-type: none"> <li>Density</li> <li>Pressure</li> <li>Elasticity of materials</li> </ul> <p><b>Practical skills</b></p>	<p><b>Electric current (Unit 8)</b></p> <ul style="list-style-type: none"> <li>Electric circuits</li> <li>Equation for current</li> <li>Voltage</li> <li>Resistance</li> <li>Power</li> </ul> <p><b>Kirchhoff's laws (Unit 9)</b></p> <ul style="list-style-type: none"> <li>Kirchhoff's 1st law</li> <li>Kirchhoff's 2nd law</li> <li>Applications to circuits</li> </ul> <p><b>Resistance and resistivity (Unit 10)</b></p> <ul style="list-style-type: none"> <li>Ohm's law</li> <li>I, V - characteristic</li> <li>Resistivity</li> </ul> <p><b>Practical skills</b></p>	<p><b>Practical circuits (Unit 11)</b></p> <ul style="list-style-type: none"> <li>Internal resistance</li> <li>Potential dividers</li> <li>Potentiometers</li> </ul> <p><b>Waves (Unit 12)</b></p> <ul style="list-style-type: none"> <li>Types of waves</li> <li>Wave speed</li> <li>Doppler effect</li> <li>EM-waves</li> </ul> <p><b>Superposition of waves (Unit 13)</b></p> <ul style="list-style-type: none"> <li>Superposition principle</li> <li>Interference</li> <li>Diffraction</li> <li>Young's experiment</li> </ul> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p> <p><b>MOCK exam</b></p> <p><b>Intervention</b></p>	<p><b>Stationary waves (Unit 14)</b></p> <ul style="list-style-type: none"> <li>Nodes and antinodes</li> <li>Sound waves</li> </ul> <p><b>Atomic structure (Unit 15)</b></p> <ul style="list-style-type: none"> <li>models of the atom</li> <li>Rutherford's experiment</li> <li>subatomic particles</li> <li>decay law</li> <li>types of decay</li> <li>fundamental particles and forces</li> <li>ionizing radiation</li> </ul> <p><b>Revision Units 11-13</b></p> <p><b>Units 14 and 15</b></p> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p> <p><b>Intervention</b></p>	<p><b>Revision Units 1-4</b></p> <p><b>Units 5-7</b></p> <p><b>Units 8-10</b></p> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p> <p><b>Intervention</b></p>	<p><b>Revision Lessons</b></p> <p><b>AS Exam</b></p>
Assessments	Unit 1 - 4 Assessment	Unit 1-7 Assessment	Unit 1-10 Assessment	Unit 1-13 Assessment	Unit 1-15 Assessment	Unit 1-15 Assessment	<b>External AS Exam</b>
Academic Theme	Planning for Tomorrow	The World around us	Better Together	The Working World	Opportunities for Everyone	Keep it Green, Keep it Clean	Healthy Body, Healthy Mind