

Physics KS5 Overview 2021 -2022

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	<p><u>Mechanics:</u></p> <ul style="list-style-type: none"> - Velocity and acceleration - Forces - Moments - Motion <p><u>Electric circuits:</u></p> <ul style="list-style-type: none"> - Current - Energy transfer - Resistivity - Core <p>Practical 2</p>	<p><u>Mechanics:</u></p> <ul style="list-style-type: none"> - Core <p>Practical 1</p> <ul style="list-style-type: none"> - Energy, work and Power - Momentum <p><u>Electric circuits:</u></p> <ul style="list-style-type: none"> - Series and Parallel - Potential dividers - Internal resistance <p>Core Practical 3</p> <ul style="list-style-type: none"> - Power 	<p><u>Paper 1 centre assessment.</u></p> <p><u>Materials:</u></p> <ul style="list-style-type: none"> - Fluids - Stokes' law - Core <p>Practical 4</p> <p><u>Waves:</u></p> <ul style="list-style-type: none"> - Wave basics - Core <p>Practical 6</p> <ul style="list-style-type: none"> - Phase - Superposition - Standing waves - Core <p>Practical 7</p>	<p><u>Materials:</u></p> <ul style="list-style-type: none"> - Hooke's law - Young's modulus - Stress-Strain graphs - Core <p>Practical 5</p> <p><u>Waves:</u></p> <ul style="list-style-type: none"> - Diffraction - Interference - Core <p>Practical 8</p> <ul style="list-style-type: none"> - Refraction <p><u>BPhO Senior Physics challenge</u></p>	<p><u>Waves:</u></p> <ul style="list-style-type: none"> - Total internal reflection - Lenses - Polarisation - Wave-Particle duality - Photoelectric effect - Electron diffraction - Atomic electron energies 	<p><u>Paper 2 Centre assessments.</u></p> <p><u>Further Mechanics:</u></p> <ul style="list-style-type: none"> - Collisions - Core <p>Practical 9</p> <p><u>Electric and Magnetic Fields:</u></p> <ul style="list-style-type: none"> - Electric Fields - Radial fields - Coulomb's law <p><u>BPhO Experimental Project</u></p>
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 13	<p><u>Further Mechanics:</u></p> <ul style="list-style-type: none"> - Core <p>Practical 10</p> <ul style="list-style-type: none"> - Centripetal force <p><u>Electric and Magnetic Fields:</u></p> <ul style="list-style-type: none"> - Electric fields - Capacitors - Core <p>Practical 11</p> <p><u>BPhO Physics challenge</u></p>	<p><u>Electric and Magnetic Fields:</u></p> <ul style="list-style-type: none"> - Magnetic fields - Electric motors - Generators - Alternating current. <p><u>Nuclear & Particle Physics:</u></p> <ul style="list-style-type: none"> - Accelerators and detectors 	<p><u>Paper 1 centre assessment.</u></p> <p><u>Thermodynamics:</u></p> <ul style="list-style-type: none"> - Core <p>Practical 12</p> <ul style="list-style-type: none"> - Internal energy - Heat transfer - Core <p>Practical 13</p> <ul style="list-style-type: none"> - Ideal gas behaviour 	<p><u>Gravitational fields:</u></p> <ul style="list-style-type: none"> - Fields and forces - Newton's law of universal gravitation. <p><u>Space:</u></p> <ul style="list-style-type: none"> - Black-body radiation - Stellar classification - Distances to the stars - Doppler effect 	<p><u>Paper 2 Centre assessments.</u></p> <p><u>Paper 3 Centre assessments.</u></p>	<p><u>Course end</u></p>

		<ul style="list-style-type: none"> - Particle interactions - Standard model - Particle reactions 	<ul style="list-style-type: none"> - <i>Core Practical 14</i> - Kinetic theory <u>Nuclear Radiation:</u> - Radioactive decay - Fission & Fusion - Power Stations - <i>Core Practical 15</i> 	<ul style="list-style-type: none"> - Hubble constant <u>Oscillations:</u> - SHM - <i>Core Practical 16</i> - Energy, Resonance and damping 		
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