

KS5 Curriculum Mapping

(SUBJECT)							
		Term1		Term2		Term3	
		Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3.1	Term 3.2
12	Concept/ Theme	Consolidating and deepening GCSE understanding while discovering the true quantum realities of the world around us.			Reframing our GCSE understanding in the context of our deeper		
	Knowledge	<i>Maths, Measurements & Uncertainties</i> – how we make measurements and process data at an A Level standard.	<i>Particles & Quantum Phenomena</i> – the different fundamental particles which make up our universe, how we classify them and how they interact to produce the phenomena that we take for granted every day.	<i>Mechanics</i> – Newton’s Laws of motion, dynamics, kinematics, momentum and rotation. In short – if it moves, why? If it’s not moving – why not?	<i>Waves</i> – how waves diffract, refract, reflect, superpose and interfere to produce a range of phenomena. Using Laser light to investigate diffraction and interference effects.	<i>Electric Circuits</i> - resistance, potential difference and current and how energy is delivered around different designs of circuit. How and why different components are used for specialised electrical devices.	<i>Materials</i> – bulk properties of solids, elasticity and the Young Modulus. In short – how and why things bend, stretch and break.
13	Concept/ Theme	Fields and Further Mechanics					
	Knowledge	<i>Periodic Motion</i> – objects which undergo simple harmonic motion and objects which move in circular paths, linking back to Newton’s laws and understanding picked up in Year 12.	<i>Gravitational and Electric Fields</i> – the properties of uniform and radial fields of both gravitational and electric potential. Again using Mechanics from both Years 12 and 13 to explain how and why things move in gravitational or electric fields.	<i>Magnetic Fields</i> – the forces experienced by charged particles or current-carrying wires in Magnetic fields, the use of magnets in particle accelerators and mass spectrometers, the function and purpose of transformers in our National Grid	<i>Thermal Physics</i> – the concepts of temperature, pressure and volume of gases, related both micro- and macroscopically through molecular kinetic theory and equations. Mathematics of temperature and phase changes in solids, liquids and gases.	<i>Nuclear Physics</i> – Radioactivity, atomic structure and nuclear stability. Developing GCSE qualitative understanding with equations and new concepts of binding energy. How nuclear reactors work and the risks and hazards associated with working with radioactive materials.	<i>Astrophysics</i> – optics of how lenses and telescopes work. How we classify the stars we see from naked-eye observations, using different areas of A Level Physics to explain the tricky concepts of stellar evolution, cosmology, redshift and the history and future of the universe.
Extra curricular		Weekly clinics are run after school to practice exam questions and consolidate learning.		Weekly clinics are run after school to practice exam questions and consolidate learning.		Weekly clinics are run after school to practice exam questions and consolidate learning.	