





ANNUAL LESSON PLAN FOR PHYSICS, KEY STAGE 5, YEAR 13 (2021-22)

		Key Concepts 	
Term 1, September – December	Mechanics. Matter and Materials	<ul style="list-style-type: none"> • Stress. Strain. Young Modulus. Material Types • Energy and collision • Momentum. • Circular motion • Centripetal force 	20
	Electric and magnetic fields	<ul style="list-style-type: none"> • Electric fields • Radial electric field • Coulomb's law • Capacitors • Electromagnetic effect 	50
	Nuclear and Particle physics	<ul style="list-style-type: none"> • Probing matter • Particle accelerators and detectors • The particle zoo • Particle reactions 	50
Term 2, January – March	Thermodynamics	<ul style="list-style-type: none"> • Heat and temperature • Heat transfer • Internal energy • Ideal gas behaviour 	25
	Radioactivity	<ul style="list-style-type: none"> • Diagnostic test/review of previous knowledge • Simple Atom Model • Radiation • Alpha, Beta, Gamma Decays • Fundamental particles • Standard Model • Nuclear radiation • Rate of radioactivity • Fission and fusion 	40
	Waves and Oscillations	<ul style="list-style-type: none"> • Simple harmonic motion • SHM Mathematics • SHM energy • Resonance and Damping 	23
Term 3, April – June	Astrophysics and cosmology	<ul style="list-style-type: none"> • Gravitational fields • Space • Stellar classification • The age of the universe 	30
	Review and revision	<ul style="list-style-type: none"> • Past Papers • Practicing time management for the exam • Key points for Paper 3 • Key points for Paper 1 • Key points for Paper 2 	74