KS5 Year 12 Physics
We follow the AQA A level Physics curriculum. Please refer to the AQA A level Physics page for more information

https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/introduction

<table>
<tr><th colspan="2">Autumn Term</th><th colspan="2">Spring Term</th><th colspan="2">Summer Term</th><th></th></tr>
<tr><td colspan="2">Key knowledge:
3.1 Measurements and their errors
3.2 Particles and Radiation
3.4 Mechanics and Materials

Please refer to the specification from AQA:
https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/specification-at-a-glance</td><td colspan="2">Key knowledge:
3.1 Measurements and their errors (cont'd)
3.5 Electricity
3.4 Mechanics and Materials (cont'd)

Please refer to the specification from AQA:
https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/specification-at-a-glance</td><td colspan="2">Key knowledge:
3.1 Measurements and their errors (cont'd)
3.3 Waves

Please refer to the specification from AQA:
https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/specification-at-a-glance</td><td rowspan="2">AAFPOL 2 Full AS paper

All year 12 content</td></tr>
<tr><td>Pupils will be able to:
Complete required practicals</td><td>Key Vocabulary:
Alpha Decay
Annihilation
Antiparticle
Baryon Number
Baryon
Beta-Minus Decay
Beta-Plus Decay
Electron Diffraction
Electron-volt (eV)
Energy Levels
Excitation
Gauge Boson
Ground State
Hadrons
Ionisation
Isotope
Kaon
Lepton Number
Lepton
Meson
Muon
Neutrino
Nucleon Number (A)
Nucleon
Pair Production
Photon
Pion
Positron
Proton Number (Z)
Stopping Potential
Strange Particles</td><td>Pupils will be able to:
Complete required practicals</td><td>Key Vocabulary:
Ammeter
Current
Electromotive Force
Internal Resistance
Light Dependent Resistor
Ohmic Conductor
Ohm's Law
Parallel Circuits
Potential Divider
Resistance
Resistivity
Resistors in Parallel
Resistors in Series
Series Circuits
Superconductor
Terminal Potential Difference
Thermistor
Voltmeter</td><td>Pupils will be able to:
Complete required practicals</td><td>Key Vocabulary:
Amplitude
Antinode
Cladding
Coherence
Diffraction Grating
Diffraction
Electromagnetic Waves
Frequency
Fringe Spacing
Interference
Laser
Longitudinal Wave
Material Dispersion
Modal Dispersion
Node
Optical Fibre
Path Difference
Phase Difference
Phase
Polarisation
Pulse Broadening
Refractive Index
Snell's Law
Speed
Stationary Wave
Total Internal Reflection
Transverse Wave
Wavelength
Young's Double-Slit Experiment</td></tr>
</table>

	Strangeness Strong Nuclear Force Threshold Frequency Work Function Breaking Stress Brittle Centre of Mass Conservation of Energy Conservation of Momentum Couple Density Efficiency Elastic Behaviour Elastic Collision Elastic Limit Elastic Strain Energy Equilibrium Hooke's Law Impulse Inelastic Collision Moment Momentum Newton's First Law Newton's Second Law Newton's Third Law Plastic Behaviour Principle of Moments Scalar Spring Constant Stiffness Tensile Strain Tensile Stress Terminal Speed Vector Young Modulus				Accuracy Anomalies Calibration Data Errors Random error Systematic error Zero error Evidence Fair test Hypothesis Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion	
Assessment: Required practicals Assessed homework PAR tasks		**Assessment:** Required practicals Assessed homework PAR tasks		**Assessment:** Required practicals Assessed homework PAR tasks		
Enrichment Opportunities:		**Enrichment Opportunities:**		**Enrichment Opportunities:**		

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<tr><td colspan="2">Key knowledge:
3.6 Further mechanics and thermal physics
3.7 Fields and their consequences

Please refer to the specification from AQA:
https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/specification-at-a-glance</td><td colspan="2">Key knowledge:
3.6 Further mechanics and thermal physics (cont'd)
3.7 Fields and their consequences (cont'd)
3.8 Nuclear physics
Optional unit (Astrophysics/Medical physics/Engineering physics/Turning points in Physics)

Please refer to the specification from AQA:
https://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/specification-at-a-glance</td><td colspan="2">Revision and Exam Practice</td></tr>
<tr><td>Pupils will be able to:
Complete required practicals</td><td>Key Vocabulary:

Angular Speed
Centripetal Acceleration
Centripetal Force
Critical Damping
Damping
Forced Vibrations
Free Vibrations
Overdamping
Radian
Resonance
Simple Harmonic Motion
Underdamping

Capacitance
Capacitor
Coulomb's Law
Cyclotron
Dielectric
Electrical Conductor
Electrical Insulator
Electric Field
Electric Field Strength, E (at a point in the field)
Electric Potential, V (at a point in the field)
Electromagnetic Induction
Equipotential
Escape Velocity</td><td>Pupils will be able to:
Complete required practicals</td><td>Key Vocabulary:

Absolute Zero
Avogadro Constant
Boltzmann Constant
Boyle's Law
Brownian Motion
Charles' Law
Ideal Gas
Internal Energy
Kelvin Scale
Molar Gas Constant
Molar Mass
Molecular Mass
Pressure Law
Specific Heat Capacity
Specific Latent Heat
State Changes

Activity
Alpha Decay
Atomic Mass Unit
Background Radiation
Beta Decay
Binding Energy
Chain Reaction
Closest Approach
Contamination
Control Rods
Coolant</td><td></td><td></td></tr>
</table>

	Faraday's Law Field Line / Line of Force Force Field Geostationary Satellite Gravitational Field Gravitational Field Strength Gravitational Potential, V (at a point in the field) Gravitational Potential Energy Kepler's Third Law Lenz's Law Magnetic Field Magnetic Flux, ϕ Magnetic Flux Density, B Magnetic Flux Linkage, N ϕ Motor Effect Permittivity of free space, ε_0 Polarised Potential Gradient Radial Field Relative Permittivity Step-down Transformer Step-up Transformer Synchronous Orbit Time Constant Uniform Field		Critical Mass Electron Capture Fission Fusion Gamma Decay Half-Life Inverse Square-Law Irradiation Mass Defect Moderator Radioactive Dating Radioactive Waste Random Nature of Radioactive Decay Rutherford Scattering		
Assessment: Required practicals Assessed homework PAR tasks		**Assessment:** Required practicals Assessed homework PAR tasks			