BROOK 6TH FORM & ACADEMY
A UNIVERSITY TECHNOLOGY COLLEGE

A level Physics Year 12 Curriculum Overview 2024-2025

AQA

Autumn term: 2024

Section 1: Particle and radiation

- Introduction of A Level Physics
- Introduction to Experimentation and recap of "Atomic Physics from KS4"
- 1.1 Atomic Structure
- 1.2 Stable and Unstable Nuclei
- 1.3 Antiparticles and Photons
- 1.4 Classifications
- 1.5 Quarks
- 1.6 Particle Interaction
- Summary and review
- Revision & summary: Pre-test
- EOU test

Section 2: EM radiation & QM phenomena

- Evaluation of EOU test
- 2.1 The Photoelectric effect
- 2.2 Energy Levels in Atom
- 2.3 Wave -Particle Duality
- Summary and Review
- EOU Test

Half Term

Section 3: Waves

- 3.1 Recap of KS4 Waves
- 3.2 Nature of Waves
- 3.3 Transverse and Longitudinal Waves
- 3.4 Superposition and Interference
- 3.5 Stationary Waves
- 3.6 Diffraction and standing Waves
- RP1: Investigating Resonance frequency
- 3.7 Interference
- 3.8 Diffraction grating
- RP2: Determination of wavelength of a RED Laser Light using Double Slit interference
- RP2: Determination of wavelength of a RED Laser Light using Diffraction Grating
- FD on Practicals
- 3.9 Refractive Index
- 3.10 Critical Angle and TIR
- Review and recap
- EOU test
- FD and Evaluation of EOU test

Christmas break

Winter term: 2025

Section 4: Mechanics

- 4.1 Scalars and Vectors
- 4.2 Forces in Equilibrium
- 4.3 Moments
- 4.4 Acceleration / Acceleration Time graph
- 4.5 Displacement Time graph & Velocity Time graph
- 4.6 Newton's Law of Motion
- 4.6 Newton's Law of Motion
- 4.1 Half-way Summary and Review
- Exam Type Qs
- Evaluation and FD

- 4.7 Acceleration due Gravity & Projectile Motion
- 4.8 Drag, Lift and Terminal Velocity
- 4.9 Conservation of Momentum
- 4.10 Force, Momentum and Impulse
- 4.11 Work and power
- 4.12 Conservation of energy
- RP3: Determining acceleration due to gravity.
- EOU test

Half Term

Spring term: 2025

Section 5: Materials

- 5.1 Density
- 5.2 Hooks Law
- 5.3 Stress and Strain
- 5.4 The Young Modulus
- RP4: Determining the Young Modulus of a material
- Evaluation of RP
- 5.5 Stress-Strain and Force-Extension Graph
- 5.6 Brittle material
- Review and Summary
- EOU test

Easter break

Section 6: Electricity

- Recap of KS4 Electricity
- 6.1 Circuits and recaps
- 6.2 I-V Characteristics
- 6.3 Resistivity
- RP5: Determining the Resistivity of a Wire
- Evaluation of the practical
- 6.4 Power, electrical energy and emf
- RP6: Measuring the Internal Resistance and e.m.f of a Cell
- Write-up of RP6
- 6.5 Conservation of Energy and Charge in a Circuit
- 6.6 The Potential Divider
- Review and Summary
- EOU test

Revision & End of the Year Exams