



Sixth Form Subject Guide

PHYSICS

★★★ CAREERS RELATED TO STUDYING THIS SUBJECT

At university you can study: Astronomy and Astrophysics, Biophysics, Chemical Physics, Cosmology, Engineering Physics, Geophysics, Medical Physics, Optics, Particle Physics, Quantum Computing as subjects with a major in Physics. Careers that use any of those university subjects, including all types of engineering and building careers, all medical careers are related to the study of Physics. The application of mathematics to solve problems is useful in economics and banking careers. In addition, the practical skills of problem solving are invaluable in any field. Elon Musk studied Physics. He said it helped him become a billionaire.

★★★ A LEVEL COURSE CONTENT

Physics: AS Level (Year 12)	
<ul style="list-style-type: none"> Physical Quantities and units Kinematics Dynamics Forces, Density and Pressure Work, Energy and Power Deformation of Solids 	<ul style="list-style-type: none"> Waves Superposition Electricity D.C. Circuits Particle Physics <p>AS Level candidates also study practical skills.</p>
Physics: A2 Level (Year 13)	
<ul style="list-style-type: none"> Motion in a Circle Gravitational Fields Temperature Ideal Gases Thermodynamics Oscillations Electric Fields Capacitance 	<ul style="list-style-type: none"> Magnetic Fields Alternating Currents Quantum Physics Nuclear Physics Medical Physics Astronomy and Cosmology <p>A2 Level candidates also study practical skills.</p>

★★★ METHODS OF STUDY FOR A LEVEL

You will be introduced to all sections of the syllabus via a mix of practical activities and lectures. The syllabus is delivered in sections (not necessarily in the same order) so students learn to make connections between the separate sections of the syllabus, to see the larger picture of the current state of knowledge in Physics. For the exam series there will be questions that are beyond the specific scope of the syllabus, to force students to use the skills and knowledge they have to apply it to unknown situations. Practical skills are assessed and as such will be constantly developed and assessed. Students will be given ample examples of the question types on each exam and will be given links to online sources to help with their studies. In both cases, it is expected that each student dedicates at least the same number of hours at home for private study as they have in the class. Physics is not a subject learnt in lectures; it is learnt by working through example problems.

★★★ ENTRY REQUIREMENTS FOR A LEVEL

IGCSE Physics or Coordinated Science Grade B and IGCSE maths Grade B as a minimum. Coordinated Science students may find it useful to contact their prospective teacher to find out what pieces of information they did not cover, but it should be highlighted that all the necessary pre-understanding is covered by the Coordinated Science course.

★★★ A LEVEL METHODS OF ASSESSMENT

Assessment Component	Weighting	
	AS Level	A Level
Paper 1: [AS Syllabus] Multiple Choice (1 hour 15 minutes)	31%	15.5%
Paper 2: [AS Syllabus] Longer Structured Questions (1 hour 15 minutes)	46%	23%
Paper 3: Advance Practical Skills (2 hours) • Practical Test under exam conditions in the Laboratory.	23%	11.5%
Paper 4: [AS & A2 Syllabus] Longer Structure Questions (2 hours)	N/A	38.5%
Paper 5: Planning, Analysis and Evaluation (1 hour 15 minutes) • Based on Experimental Skills.	N/A	11.5%