A-Level Physics

Full course title and Exam Board	AQA A-Level Physics (7408)	Specification QR
Teacher(s)	Mr E Hlambelo ehlambelo@enfieldgrammar.org Mr M Shepherd mshepherd@enfieldgrammar.org	
Introduction	Are you interested in the physics topics in your science studies at GCSE? Are you good at Maths? Do you enjoy problem solving? Would you like to know more about fundamental ideas such as quantum mechanics, cosmology and nuclear physics? If the answer to these questions is yes, then 'A' Level Physics might be for you.	
What is the course about?	Physics explores our world from the unseen dimensions of millionths of a metre to 14 billion light years - to the edges of the Universe. On the scale we live on, physics is at the heart of technology that changes our lives, bringing us heat, light and communication in ever more ingenious ways. It has brought anti-matter to our hospitals and radioactivity into pharmacy. If you find yourself wanting to understand more deeply how stuff works, why we have phenomena like red skies at night or why space junk is a huge issue for our future, then Physics A level is for you.	
How will I be assessed and what will I be studying?	We start the AQA course with a look at particle physics and we see how this field has led to new technologies in healthcare. From quantum physics we then return to a study of mechanics and an understanding of the forces, motion and energy that are involved in our modern transportation systems. Light is our probe for understanding the places we cannot reach, supernovae and neutron stars. We explore the nature of electromagnetic radiation and its wave and particle-like properties. All our technology depends on us being able to produce, send and utilise electrical energy. The first year of the course introduces the electrical circuits and the novel components that lie behind our tech-savvy lives. In the second year, you take mechanics further and explore motion in two dimensions: circles and oscillations. You will examine motion close to the speed of light and study the outcomes of special relativity. The work on motion is then applied to particle detectors and mechanical and electrical devices. The course looks at the theories of gases, an area of physical chemistry that enables chemical engineers to design industrial systems, and helps us understand how stars are formed.	
Current Text book and further Reading	A-Level Sciences for AQA. AQA Physics. 2nd Edition. OXFORD. Jim Breithaupt Students are able to access online version of this book for free using their Kerboodle login	
Future Career Directions	Physics qualification is essential for many future careers in science and engineering. It is also classed as a "facilitating" 'A' Level by Russell Group Universities as there are many university courses that require 'A' Level Physics. Physics can also help you make progress in other fields that value the demanding skills developed through Physics. Many architects, accountants, bankers and lawyers have benefited from studying Physics at 'A' Level. Physics is even relevant if you are planning to study music, as it helps you to understand how sound is produced and transmitted. Whether you have ambitions to be an astronaut, study medicine or simply earn big money, choosing Physics as one of your A Level subjects can take you where you want to go.	

Subject Entry Requirements	Grade 7 in Additional Science and Grade 7 Maths.