

## POST 16 SUBJECT OVERVIEW

### **Name of Subject - Physics**

### **Which Examination Specification is Studied for this Course?**

AQA

### **Why should I study this course?**

Physics underpins every aspect of life as we know it - and every way that it could change in the future! It is the science of the very small (what makes up protons and neutrons) to the very large (supernovae and black holes). There have been some huge discoveries over the last 100 years but there is still so much to learn, and you could be a part of that with A Level Physics.

**Who is suitable to study this course?** A Level Physics is a course for anyone who loves the Physics content in GCSE and is ready to go into more detail in every aspect. Students need to be comfortable using Maths and as such it is common to take both subjects for A Level, there is even some shared content in the Mechanics topics. Physics can lead to a huge range of future careers including research, medical radiography, journalism and engineering. The problem solving skills that are developed in A Level Physics are excellent, and people with an A Level in Physics go on to earn over £20,000 more than average every year!

### **What GCSE Qualifications Support the Study of this Course?**

Triple Science is preferable. Students who have taken Combined Science may have to work a little bit harder to catch up on content not covered at GCSE. Students should be comfortable with using and applying Maths in Science, so strong Maths skills are key.

### **What are the Qualification Requirements for this Course?**

6s in Triple Science or 7/7 on Combined Science plus 6 in English Language and 6 in Maths

**How is the Course Delivered?** A Level Physics is usually taught by two specialist Physics teachers (each holding a Physics related degree) over 5 hours each week, including some double lessons. We expect students to complete approximately an hour of independent work for every hour of lesson that they have, which includes

completing homeworks of more practice questions and consolidating and improving notes. Lesson resources are uploaded to Google Classroom so students have access to them at all times.

There are 12 required practical activities that will be completed over the two years, and students will keep a detailed lab book recording information, results and analyses of data.

<b>Subject Overview</b>		
<b>Half Term</b>	<b>Year 12</b>	<b>Year 13</b>
<b>Autumn 1</b>	Particles, Radiation & Quantum Phenomena	Nuclear
<b>Autumn 2</b>	Waves & Optics	Gravitational Fields
<b>Spring 1</b>	Materials & Mechanics	Electric Fields & Capacitors
<b>Spring 2</b>	Electricity	Magnetic Fields
<b>Summer 1</b>	Further Mechanics	Option Module: Astrophysics/Medical Physics/Engineering/Turning Points in Physics
<b>Summer 2</b>	Thermal Physics	Exams

### **How is the Course Assessed?**

There are three 2 hour exams taken at the end of Y13. Paper 1 covers content from the first year and is worth 34%. Paper 2 covers content from the second year and is also worth 34%. Paper 3 is worth 32% and covers content from the option module and the required practical activities.

There is also a Practical Skills Endorsement certificate which is graded as a pass or fail based on your ability to carry out 12 required practicals independently during the 2 years.

There will be at least one assessment in each Praising Stars cycle as well as mock exams in Jan/Feb and June/July.

## **What is our Recommended Subject Reading list to Support your Study?**

Textbook (provided by school):

CGP A-Level Physics for AQA: Year 1 & 2 Student Book

Other book recommendations:

Oxford AQA Physics: A Level

Oxford Revise: AQA A Level Physics Revision and Exam Practice

Practice in Physics 4th Edition (Hodder) - Akrill, Bennet, Millar

CGP Head Start to A-level Physics

Other resources:

<https://science.outwood.com/post-16-study/a-level-physics>

<https://www.alevelphysicsonline.com/aqa>

<https://www.youtube.com/user/ScienceShorts>

<https://www.physicsandmathstutor.com/physics-revision/a-level-aqa/>

