

POST 16 SUBJECT OVERVIEW

Post 16 Subject Overview

Name of Subject - A-level Physics

Which Examination Specification is Studied for this Course?

AQA

Why should I study this course?

Physics is the study of matter, from the study of the universe right through to the study of tiny subatomic particles.

There are many career opportunities linked to the study of Physics. These include, but are not limited to:

- *Sound engineer*
- *Nuclear engineer*
- *Clinical Scientist*
- *Astronomer*
- *Geophysicist*

A qualification in Physics will allow the access to higher education courses that link with the careers above, as well as other higher education courses,

Who is suitable to study this course?

Students who enjoyed studying Physics at GCSE will enjoy delving deeper into the subject at A-level. It is a challenging A-level but very rewarding. It links well with the other sciences and with Maths, and is a useful qualification for pupils interested in the careers mentioned above.

What GCSE Qualifications Support the Study of this Course?

Students will need a good pass at GCSE Combined Science or Physics. Students will also need strong mathematics skills to succeed at this course.

What are the Qualification Requirements for this Course?

GCSE Physics or Combined Science (Grade 6)

GCSE Maths (Grade 6)

How is the Course Delivered?

Students have 5 hours of lessons in the classroom each week. It is recommended that they dedicate the same amount of time to independent study.

Students also complete 12 required practicals that are assessed and make up a practical endorsement. Practical skills are also assessed in the examinations.

The units covered include;

Subject Overview		
Half Term	Year 12	Year 13
Autumn 1	Particles, Radiation & Quantum Phenomena	Nuclear
Autumn 2	Waves & Optics	Gravitational Fields
Spring 1	Materials & Mechanics	Electric Fields & Capacitors
Spring 2	Electricity	Magnetic Fields

Summer 1	Further Mechanics	Option Module: Astrophysics/Medical Physics/Engineering/Turning Points in Physics
Summer 2	Thermal Physics	Revision and exams

How is the Course Assessed?

There are three 2 hour exams taken at the end of Y13.

Paper 1 - Measurements and errors, Particles and radiation, Waves, Mechanics and materials, electricity and Periodic motion. 2hr written paper (85 marks) (34% of the A level)

Paper 2 - Thermal Physics, Fields and their consequences and Nuclear Physics. 2hr written paper (85 marks) (34% of A level)

Paper 3 -

- Section A: Compulsory Practical skills and data analysis.
- Section B: Option unit 2hr written paper (80 marks) (32% of the A level)

The examinations test the following skills:

AO1: Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.

AO2: Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:

- in a theoretical context
- in a practical context
- when handling qualitative data
- when handling quantitative data.

AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to:

- make judgements and reach conclusions
- develop and refine practical design and procedures

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

<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/>

