

Physics A Level

Why Study This Course?

- Have you ever puzzled over these types of questions:
 - What are quarks and anti-quarks?
 - How do Polaroid sunglasses reduce glare?
 - Why are skies blue and sunsets red?
 - What happens inside a nuclear reactor?
- You have an enquiring mind
- You enjoy problem solving
- You have mathematical ability
- If you have good powers of observation then Physics could be for you!

What You'll Study

Year 1:

Physics is about finding out how the universe works. It's about modelling reality to help us explain what we know and make predictions and new discoveries. Physics lies at the heart of all science, all engineering and much of our everyday lives. Your first year of study will cover:

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and energy
- Electricity

Year 2:

- Further mechanics and thermal physics Fields
- Nuclear physics

Plus one option from the following:

- Astrophysics
- Medical physics
- Engineering physics
- Turning points in physics
- Electronics

Career Progression

- Studying physics opens up a large number of career avenues, for example; Astronomer, Engineer, Geophysicist, Radiographer
- Physics is also highly regarded for a number of financial careers, although not essential.



Why Study Physics at PWSFC?

Why I chose Physics

"Physics is Maths but cooler! I took a profound interest in Physics after watching a couple of TV programmes about space. There is a lot of cool stuff in space, black holes, neutron stars and aliens to list a few. Also I find it amazing how life can be described by Maths alone. As well as the world we see around us, Physics can tell us about the things we can't see and even things that don't yet exist. Physics at Parrs Wood Sixth Form was an easy choice for me because I knew most of the teachers and they're all pretty good. I hope to go on to study Physics at University, so Physics and Maths at A Level are vital. If you're looking for an easy subject then you're quarking up the wrong tree!"

– Hugh

If you like this subject you may also like:

Mathematics, Further Mathematics, Core Mathematics, Computer Science, Chemistry, Biology

Exam Board: AQA

Why Parrs Wood?

Classes are normally taught by two members of staff using a wide range of teaching and learning styles; including:

- Teacher-led lesson
- Practical sessions
- Problem-solving classes
- Individual research
- Student presentations
- Supported self-study

A number of talks and trips are organised through the Physics department each year. Examples of trips run in the past include:

- Lecture on Quarks and Gluons by Prof Fred Loebinger.
- Physics trip to CERN in Genève.
- Medical Physics trip to The Christie Hospital.
- Physics Master Class at the University of Manchester.

CO2 Team:

The CO2 team is a group of Sixth Form student leaders who have been working with the school's management to reduce our Energy consumption and Carbon Footprint. They have contacted and worked with a number of specialists in this field including the Carbon Trust, local businesses, planning agencies and Universities. First they analysed the schools' energy consumption and identified areas where we could make savings. Stage 3 of the improvements has just been completed and the figures for this year's work stand up well to close inspection -

- Funds raised from Carbon Trust = £27K
- Annual electricity savings around 15% (£18K)
- Payback time for improvements 18 months (well within the carbon trust regulations of 4 years)
- Annual saving on water costs £12.5K
- Annual reduction in energy related CO2 emission 10% (115 Tonnes)

More improvements are planned for next year.

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