

A-Level Physics

EXAM BOARD: AQA

What does the course cover?

“That which is not measurable is not science. That which is not *physics* is stamp collecting.”

Ernest Rutherford

Physics explores the fundamental nature of almost everything we know of, from the smallest pieces of matter to the furthest reaches of the observable universe. It explains the underlying concepts behind every day phenomena and is pushing the advancement of human knowledge. Many apparently complicated things in nature can be understood in terms of relatively simple mathematical relationships. Physicists try to uncover these relationships through observing, creating mathematical models, and testing them by doing experiments. In short it tries to answer the biggest question of all ‘What is the universe, how did it begin and how does it all work?’

During the A level Physics course you will study:

- Particles and Radiation
- Waves
- Mechanics and Energy
- Electricity
- Thermal Physics
- Electromagnetic and Gravitational Fields
- Nuclear Physics

What skills will the course help you develop?

Physics will help you solve problems. Not just physics problems, but any problem which can be logically thought out. Physics is all about taking something which is very complicated, and breaking it down into much smaller, simpler components. Physicists become very adept at taking a problem and explaining it in terms of mathematics or basic ‘first principles’, and then using mathematics to find the most logical and optimal solution.

How is the course assessed?

AS and A-Level Physics is assessed purely on exams taken at the end of year 12 and 13 respectively. At the end of the A-Level there are three, 2 hour exams. Although there is no coursework, there are assessed practicals which will give you the confidence and skills needed to investigate how things work. At least 15% of the exams will be based on what you have learn during the practicals.

What are the entry requirements?

If you wish to study Physics at A level then you will need 5 GCSE A*-C including English. Students will need at least a B in both Core and Additional Science. Due to the high mathematical demands of the course a B grade in Maths is required, although an A is recommended.

What do students who study this course go on to do?

Physics opens up a huge number of technical degree and career choices. The top seven degree courses taken by physics students are Mathematics, Physics, Mechanical Engineering, Civil Engineering, Economics, Business and Computer Science.

Who is the staff contact for Physics?

Mr Curtis is the lead teacher, working with Mr Altaf and Miss Gregory.