

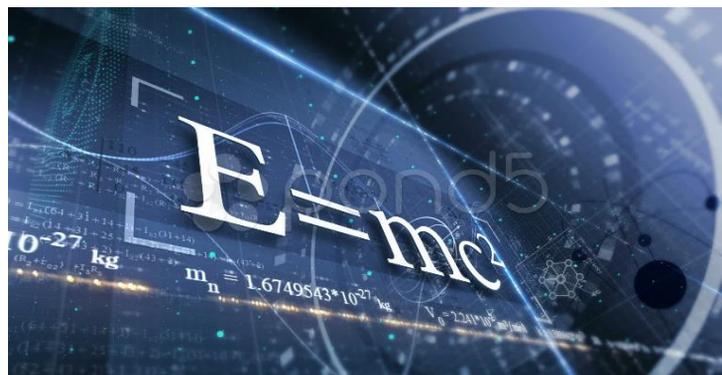
Physics

A Level

Head of Science Department:

Mrs C Dunham

Examination Board: AQA



What is the course about?

Physicists explore the fundamental nature of almost everything that ranges from the subatomic scale to the scale of universe. The theory behind natural phenomena is covered in detail with a fair level of mathematical skills. The students will have the opportunity to apply some of the physics concepts by investigating practical problems and therefore to acquire and develop experimental skills that are required for designing experiments and collecting data. Examples of the practical investigations include: measuring gravity, studying interference and diffraction of laser light, ideal gas laws between temperature, volume and pressure of particles, safe use of ionising radiation and exploring magnetic fields.

What will I study in the first year?

In the first year you will study the basics of measurements and their accuracy, the structure of an atom and subatomic particles, the electromagnetic radiation together with some basic quantum phenomena. This is then followed by the nature of waves, mechanics, materials and electricity. The topics are put in historical context when scientific discoveries were made.

What will I study in the second year?

In the second year you will study further mechanics, thermal physics, electric and magnetic field, nuclear physics, plus one module that can be chosen from astrophysics, medical physics, engineering physics, turning points in physics and electronics.

How is the course assessed?

There are three examination papers at the end of the two years for A-level, each of two hours duration. There is no coursework on this course. However, your performance during the practical investigations will be assessed. At least 15% of the marks for A-level Physics are based on what you learned in your practicals. In AS, there are two exams at the end of the first year, both of which are 1 hour and 30 minutes long.

What skills will I develop in this course?

You will develop deep thinking and analytical skills for solving problems, and the ability to relate and connect different aspects of physics which will give you a complete view of the physics experience. You will also develop experimental skills on how to design experiments, how to take measurements to then predict physical behaviours.

What does this subject offer for higher education and future careers?

The top seven degree courses taken by students who have an A-level in Physics are: Mathematics, Physics, Mechanical Engineering, Computer Science, Civil Engineering, Economic, Business. Studying A-level Physics offers an infinite number of brilliant careers and opportunities ranging from higher education lecturer and research scientist, to meteorologist, geophysicist and field seismologist; from radiologist and medical physicist and system developer to patent attorney and even lawyer. Physicists, known as Rocket Scientists, model financial events worldwide and are highly paid.