

# PHYSICS

## A-LEVEL



### Examination Board: EDEXCEL

#### Course content:

*Why aren't mountains higher? Why don't atoms fall apart? Am I made of particle or waves and does it depend on whether anyone is looking?*

At A-Level you will learn about scientific ideas and models which range in scale from the structure of the atom to gravitational forces between planets and stars. Units will expand significantly on material you studied at GCSE (eg. forces, energy, and electricity) and you will experience some completely new content which includes aspects of materials science and quantum mechanics. A practical approach is used throughout and this work requires planning, decision making and analysis to a high standard. The course is demanding, and this adds to its reputation as a rigorous and impressive qualification to possess, but it is also very interesting and, perhaps in defiance of expectations, a lot of fun...

#### Assessment:

Assessment for A-Level Physics will be entirely based upon examinations in the Summer of Y13. There is no assessed coursework, although there is an additional practical credit, separate to the grade awarded that is dependent on students' demonstration of key skills during Core Practicals. These will be attempted throughout the course.

#### Skills acquired:

Physics instils key transferable skills: in particular, you will develop your ability to solve problems, both theoretically and practically, and will also become significantly more adept at analysing and interpreting data. You will become more comfortable with the use of equations and numerical work in general. The ICT component of the course is continually expanding and it is intended that the use and creation of computer simulations and models become more central to everyday classwork to reflect the demands of modern workplaces and research environments.

#### Links with other subjects:

Physics underpins all Sciences, and as such may help with numerical aspects of Biology and Chemistry. Physicists use mathematics to create and investigate models of the Universe: it is not at all essential that you study Mathematics at A level but a good degree of numeracy is essential and a Level 6 or above at GCSE is preferred.

#### Possible careers:

Perhaps more than you would think! Remember the *transferable* nature of the key skills: Physics certainly gives you options. The study of all branches of Engineering; Architecture; Medicine; Dentistry; Veterinary Science, Design; ICT will benefit from a Physics A-Level, even if it is not an actual a requirement.

#### Prior experience:

Experience shows that students will find the course much easier if they have achieved at least a Level 6 in Core and Additional Science or in Physics and Maths. Mrs Williams-Hewitt, Head of Physics, is open to discussion with students who achieve Level 5, but strong motivation and ambition will be expected.

#### Student comments:

*"I have been really glad I chose this as I have enjoyed this far more at A-level." "Physics is really enjoyable at A-level. Because of the experiments we do, you find out why things work in the way that they do. It's great!" "I've enjoyed the last two years so much, I'm now going on to study Physics at University."*