

## Physics AS/A level

### Introduction

In physics we study everything from the very large to the very small; from the universe to sub-atomic particles. Through physics we begin to understand why things behave as they do. Physicists attempt to solve stimulating and important scientific, practical and social problems. Physics provides answers to interesting questions such as:

Why are skies blue and sunsets red?

What causes tides?

What holds the parts of an atom together?

What are the best designs for sports equipment?

How can we make cars safer and more economical to run?

How does a hologram work?

Physics is vital in understanding many other events which affect our daily lives. It is a highly regarded academic subject that provides a good preparation for a range of degree courses. It is an excellent subject to choose if you are not sure about your future plans and want to keep your options open.

Physics combines particularly well with AS courses such as maths, chemistry, design, electronics, and engineering, but it is also a good choice if you want to study one science subject alongside a contrasting programme.

### Year 1

In the first year you will study the three units which make up the AS qualification. There is a good deal of emphasis on practical experimental work alongside the study of theory.

Unit 1 covers particles, quantum phenomena and electricity.

Unit 2 covers mechanics, materials and waves.

Over the year you will do lots of practical work and develop skills which will enable you to perform well in unit 3, the practical assessment.

### Year 2

In the second year there are three more units. In unit 4 you will study fields and further mechanics. In unit 5 you will study nuclear physics, thermal physics and a topic selected from a list of options.

You will also do a good deal of practical work to improve your practical skills for the unit 6 practical assessment.

### Assessment

Unit 1 is examined in January of the first year. Unit 2 is examined in June. Unit 3 is assessed by your teacher. The three units comprise the AS course which is worth half of the final A2 grade.

For A2, the unit 4 exam is taken in January of year 2. The unit 5 examination is taken in June. Unit 6 is assessed by your teacher.

### Specific Entry Criteria

Grade C in Maths (Higher Tier) and a grade C in Physics or a minimum of a grade C in the Core and a grade B in Additional Science.