

PHYSICS

Why choose Physics?

Physics explains the world around us, from the galaxies to sub-atomic particles. Physics also enables us to change the world through the work of engineers, designers and technologists, for example. From your GCSE studies you will realise whether you have the curiosity, interest and ability to pursue the subject further.

Where does it lead?

Physics A-level is an essential or desirable qualification for a degree in almost any area of Science or Technology. It develops the analytical and problem - solving skills which many employers seek. Physics graduates enter a wider range of careers than any other graduates.

What does the course involve?

The Department follows the OCR Physics A course. Familiar GCSE topics are studied in more depth and detail and new ideas on particles and quantum physics are introduced. A practical approach is used to aid understanding of new concepts and also to develop experimental skills which are assessed during the course. Logging and spreadsheets feature regularly in the collection and analysis of experimental data. Assignments will also cover research and presentation, encouraging students to become more independent learners.

Each group is taught by two specialist teachers from our departmental team, each of whom contributes differing expertise to the course. Currently there are 6 physics specialists teaching at Beauchamp.

The department is committed to broadening students' learning experiences by offering a range of extra-curricular opportunities. This typically includes University lectures, conferences and workshops: industrial projects: 'design and build' days: internet quizzes and national competitions.

The subject does rely on skills but you do not need to study A-level Maths to succeed in A-level Physics. If you have a good GCSE Maths background, being familiar with the basic trigonometry functions and can handle powers of ten comfortably, then you will meet no new Maths in Year 12. Our Physics staff can teach you the small amount of new Maths you will need in Year 13.

How will I be assessed?

Regular end of topic tests will prepare you for the module exams taken in January and June of each year. The practical requirements of the course are assessed via a series of practical tasks, which are set when appropriate during the course. Year 13 exams include questions designed to allow gifted students to show their ability and to attain at A* grade.

To discuss the course further please feel free to approach any member of the Physics Department. We'll be pleased to help.

Module Details

LEVEL	UNIT	CONTENT
AS	1	Particles. Electromagnetic radiation and quantum effects.
AS	2	Mechanics. Molecular kinetic theory model.
AS	3	Current electricity. Elastic properties of solids. Practical examination.
A2	4	Waves. Fields. Nuclear energy.
A2	5	Nuclear instability. Optional component. Practical examination of coursework.
A2		Synoptic examination.

