

Physics

A level

What will I study and learn?

Physics explores the deepest questions we have concerning how the universe works, from the strange and fascinating quantum world to the behaviour of entire galaxies. Students will develop their understanding of intriguing topics, such as electric and magnetic fields, particle physics and medical imaging.

How will I be assessed?

Papers 1 and 2

(Each paper contributes to 37% of final grade)

Both papers cover the full breadth of physics studied over the two years.

Paper 3

(Contributes to 26% of final grade)

This paper is slightly shorter and is more synoptic in nature.

Portfolio

Experimental skills are also taught throughout the course and you will develop a portfolio of evidence for the practical endorsement, which is certified alongside the final A level grade.

What skills should I have and what will be developed?

Physics is far more than a body of knowledge. The course is designed to develop a range of important skills including problem-solving, data analysis and effective communication, so that learners leave BGS with a qualification that is highly sought after by universities and prospective employers.

A level/IB

Both the A level and IB courses offer ample opportunities to experience physics outside the classroom by taking advantage of the variety of guest speakers, clubs and trips on offer. Past trips have included a particle physics masterclass, engineering debates over lunch at the House of Lords and a tour of the Diamond Light Source in Oxfordshire.

Students are encouraged to get involved in the weekly HiSparc Cosmic Ray and Astronomy Clubs. In addition, the School runs regular STEM Cafés –

with visiting speakers from industry and academia – on topics including nuclear physics, diamond-powered batteries and how to design a submarine.

Many students who study Physics in the Sixth Form at BGS go on to study courses such as engineering, the physical sciences, and architecture at top universities. A firm grasp of physics is required in order to study such courses; admissions tutors accept students with either A level or IB qualifications in the subject.

Entry requirements

In order to study A level or IB Physics, students should achieve a grade 7 in Mathematics and Physics at GCSE or IGCSE level. Equivalent qualifications will also be accepted.



IB

What will I study and learn?

In an increasingly globalised world, it is important for learners to develop the key knowledge and skills needed to be one step ahead of the competition. The Higher level IB Physics course is designed to prepare students for such a world while, at the same time, encouraging them to feed their curiosity about how the universe works. Learners will study a broad range of exciting topics, such as quantum and nuclear physics, electromagnetic induction and thermodynamics.

Please note that physics is not being offered at standard level.

How will I be assessed?

You will be assessed with three examination papers at the end of the course:

Paper 1 (20%)	Paper 2 (40% SL; 36% HL)	Paper 3 (20% SL; 24% HL)	Ten-hour experimental project (20%)
Multiple-choice questions from the core topics. Calculators are not permitted.	Longer written answers on the core content.	Longer written answers based on experimental work and the choice of an optional topic.	This project is internally assessed and counts towards the final mark. Students are assessed on their ability to plan, implement and evaluate an experimental investigation of their choosing.

What skills should I have and what will be developed?

The IB course is designed to develop the skills needed to work in a technical and increasingly globalised world. Students are taught to analyse and present data clearly, work collaboratively across scientific disciplines and design creative solutions to real-world problems.

Want to know more?

Mr Stewart Harper
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Exam Board:
www.ocr.org.uk
www.ibo.org

“Physics is more mathematical than other sciences, which is great for challenging your learning. There is a good balance of reviewing your own work and having support from the teachers who want you to succeed. There is always an extension question to stretch your learning in our classwork and homework.

Daniel Ball, OB 2019
Courses: Chemistry, Mathematics and Physics