

Physics

Advanced Level

General Information

Physics is the branch of Science concerned with matter and energy in its different forms and its scope extends from the smallest sub-atomic particle to the entire universe. Physicists study the world in which we live and attempt to understand and interpret it.

The course has been developed specifically to bring the subject to life and inspire students to achieve more. It has been based on extensive research and engagement with the teaching community. You are actively encouraged to become independent learners, confident in discussing ideas, innovative and engaged.

The content is up-to-date and builds on topics first encountered in GCSE Physics, it also includes units on: Cosmology, Particle Physics, Medical Physics as well as Quantum Physics.

Entry requirements

You must have at least one of the following:

- Grade 6 in both grades of Combined Science
- Grade 6 at GCSE Physics

In addition you must have a grade 6 in GCSE Maths and an average GCSE score of 5.5. Physics has a high mathematical content and so students are very strongly advised to take Advanced Level Maths alongside Physics, if not you must have achieved at least a grade 7 in GCSE Maths. In this subject, particular skills and aptitudes will be required, many of which will be demonstrated by students' GCSE profiles.

You should also meet the general college entry requirements for Advanced Level study. Please refer to the current Prospectus - advanced programmes, entry requirements.

Entry requirements might be changed in light of curriculum reform.



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Course Content

This is a new linear course and all content is examined at the end of the second year. Throughout the course you will build up a portfolio of your practical work.

- Module 1
Development of practical skills in physics
- Module 2
Foundations of physics
- Module 3
Forces and motion
- Module 4
Electrons, waves and photons
- Module 5
Newtonian world and astrophysics
- Module 6
Particles and medical physics

Examination Details

Component 1: Modelling physics	2hr 15	100 marks	Modules 1,2,3,5
Component 2: Exploring physics	2hr 15	100 marks	Modules 1,2,4,6
Component 3: Unified physics	1hr 30	70 marks	All modules

How it is taught

Throughout the course you will develop and demonstrate a deep appreciation of the skills, knowledge and understanding of scientific methods; develop competence and confidence in a variety of practical, mathematical and problem solving skills; develop an interest in further study and careers associated with the subject; understand how society makes decisions about scientific issues and how physics contributes to the success of the economy and society.

Extensive use is made of electronic methods of delivering the course. You will be enrolled onto a major online resource called Kerboodle which gives you online access to the digital textbook as well as many learning resources and question sheets.

The wide use of ICT means that computers play an important part in the course and the Science Laptop Computers are a major resource in the Department. Physics is a practical subject and this is reflected throughout the course.

Useful / common subject combinations

Subjects that go well with Physics include Chemistry, Computing, IT, Biology, Geology, Geography, Economics and Business Studies.

Careers / HE information

Most Physics students progress to higher education taking courses in all types of Engineering, Pure Sciences and in many branches of Applied Science. Many go on to work in a science-based industry or business, and increasingly in areas of Medical Physics such as Radiography and Medical Imaging.

You are expected to complete at least five hours per week of work on your own, outside lesson times, and are encouraged to ask for help if there are any difficulties with any aspect of your work. Progress is monitored by tests during each stage of the course and by mock examinations.