



PHYSICS (EDEXCEL)

Level of Study: A-Level

Description of the Course

This course is designed to lead on from GCSE Combined Science or GCSE Physics and aims to embed fundamental physical concepts and develop those areas of Physics which are most relevant to the modern world. Teaching is concept-based with an emphasis placed on the solving of problems and the application of knowledge in new and challenging situations.

Students will be issued with a student textbook to support their study, and the Physics Department holds regular problem solving classes as well as a wide range of enrichment activities throughout the year.

In Year 12 we study:

- Working as a Physicist
- Mechanics
- Materials
- Waves
- The Particle Nature of Light
- Electric Circuits

In Year 13 we study:

- Further Mechanics
- Fields; electric, magnetic and gravitational
- Nuclear and Particle Physics
- Thermodynamics
- Astrophysics
- Oscillations and exponential decay

Entry Requirements

6 in Physics GCSE or 6-6 in Combined Science GCSE and 6 in all Physics papers

6 in Mathematics GCSE

A-Level Mathematics does not need to be taken alongside A-Level Physics, although students often find A-Level Mathematics helpful.

Skills required and then further developed during the course

1. The ability to manipulate mathematical equations.
2. The ability to think clearly and interpret information.
3. The ability to research information and think independently.
4. The ability to manipulate practical equipment, follow and design experimental procedures and communicate findings effectively.
5. To contribute fully in group situations.
6. Curiosity and a hunger for asking questions and solving problems.

Websites

Edexcel: Course Information

<http://www.edexcel.com/quals/gce/gce15/physics/Pages/default.aspx>

Institute of Physics: General Physics and Careers information

<http://www.iop.org/careers/directions/index.html>

Structure of the Course

The examinations at the end of Year 13 will cover topics from all units and these will provide a final grade for the A-Level. An outline structure and assessment of the course is laid out below:

Level	Name	Assessment
A-Level	Advanced Physics 1	Examination 1hr 45 mins: 90 marks
A-Level	Advanced Physics 2	Examination 1hr 45 mins: 90 marks
A-Level	Advanced Physics 3	Examination 2hr 30 mins: 120 marks



Please note that there will no longer be any assessment of practical skills that contribute towards the final A-Level result. However, each student will complete a series of core practicals and receive a Certificate of "Practical Competency".

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Educational Progression and Career Opportunities

The study of A-Level Physics is a rewarding experience. The demands of this rigorous course, from developing abstract concepts to applying problem solving skills, means that it is seen by Universities as a "facilitating" subject, enabling access to a wide variety of university courses and careers. Nobody takes A-Level Physics because they think it will be easy, but as a result of this Physics opens many doors.

In addition to the traditional university courses in Physics, Medicine, Engineering Sciences, Astronomy and Cosmology, the study of A-Level Physics is highly valued by universities (and employers) awarding places to students looking to study subjects as diverse as Law, Philosophy, Journalism, Accountancy, Insurance, Finance and Banking. Should a student wish to study Physics or Engineering at degree level, they will also need A-Level Mathematics.