



QUALIFICATION: A-LEVEL

Awarding Body:

AQA

Length of Course:

2 Year

Students will all be entered for the AS exam at the end of Year 12 and that work will be assessed again as part of the full A-Level at the end of Year 13.

Year 12

AS Level

Students will study subject content on

1. Measurements and the treatment of errors

This will include units, uncertainties and estimation.

2. Particles and Radiation

Including atoms, quarks and the photoelectric effect.

3. Waves

Including diffraction, polarisation and refractive index.

4. Mechanics and materials

Including Newton's laws, momentum and Hooke's law.

5. Electricity

Including circuits, resistivity and potential dividers.

Examination - 2 written papers each 1h 30 minutes

Both papers cover all 5 sections of the course and contain a mixture of short and long questions. Paper 2 will also contain multiple choice questions.

Assessment of practical skills and data analysis developed during the course will take place within paper 2.

Each paper will contribute 50% of AS qualification, but will not contribute towards the full A-Level.

Year 13

A-Level

Students will study subject content on

6. Further Mechanics and Thermal Physics

Including circular motion, simple harmonic motion and gas laws.

7. Fields and their consequences

Including gravitational, electric and magnetic fields.

8. Nuclear Physics

Including Rutherford scattering and radioactive decay.

They will also study an option topic. At present we offer:

12. Turning points in Physics

This looks at the significant steps forward in physics including the discovery of the electron, wave-particle duality and special relativity.

Examination - 3 written papers each 2h

Paper 1 will cover the work from AS along with the further mechanics content. Paper 2 will cover the thermal physics along with sections 7 and 8.

Paper 3 will assess practical skills and data analysis along with the option topic.

All papers contain a mixture of short and long questions and papers 1 and 2 also contain multiple choice questions.

Paper 1 34% of the A-Level qualification

Paper 2 34% of the A-Level qualification

Paper 3 32% of the A-Level qualification

PRACTICAL WORK

Students will develop their practical skills through a number of activities. There are 12 required practicals for the A-Level course, 6 of which are required for AS. Students will have their competency in using apparatus and techniques assessed throughout the course and can be awarded an endorsement of practical skills.

Their ability will be assessed within the written exam papers.

COMPARISON WITH GCSE

The subject specification is designed to provide a smooth transition from GCSE and to maintain present Advanced GCE quality.

RELEVANCE TO FURTHER STUDIES AND CAREERS

The possibilities for a student with an Advanced GCE qualification in Physics are many and varied.

It is advantageous for virtually all science courses studied at university. Careers in engineering are especially rewarding, particularly if you are prepared to travel abroad.

There are many openings in the electronics industry, especially with the rapid advances in microelectronics and robotics. There are job opportunities worldwide in this area.

It is an important Advanced GCE for entry into Medical and Dental Schools; indeed many Physicists work in the medical field dealing with apparatus such as body scanners, x-rays, radioactive tracers etc.

Physics today is assuming an ever more important role in Geography and Geology and there are openings for Geophysicists in the oil industry. Finally, Physics is still one of the subjects in which there is a shortage of teachers, so there are still openings in the field of Education.

ENTRY REQUIREMENTS

Candidates should be advised that Grades 6, 6 or better in Combined Science or 6 in Separate Physics is the normal entry requirement for this subject.

FURTHER INFORMATION

Studying 'A' Level Maths is an advantage for Physics students but is not a formal requirement. Candidates must have achieved a Grade 6 or better at GCSE Maths before starting AS Physics due to the very high mathematical content and skills required.

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SIXTH FORM VISIT

GIRLS' SCHOOL VISIT

BOYS' SCHOOL VISIT