Physics

Awarding Body: Students will follow the AQA Advanced Supplementary and Advanced GCE courses.

Course Content and Examination Requirements
The AS level qualification consists of 3 units, one of which is an assessment of practical skills. The full A level qualification adds a further 3 units, again one tests practical skills.

Year 12	Year 13
AS Level Units	**A2 Units leading to full Advanced GCE**
Unit 1 Particles, Quantum Phenomena and Electricity. This covers the nucleus, quarks, quantum effects, electricity and circuits. **Examination – written paper 75 mins. Taken in January.** **40% of AS, 20% of full A level.**	**Unit 4. Fields and Further Mechanics** This covers circular motion, simple harmonic motion and gravitational, electric and magnetic fields. **Examination - written paper 105 mins including structured and multiple choice questions. Taken in January.** **20% of A level.**
Unit 2 Mechanics, Materials and Waves This covers Newton's laws, properties of materials and wave behaviour. **Examination – written paper 75 mins. Taken in June** **40% of AS** **20% of full A level.**	**Unit 5 Nuclear Physics, Thermal Physics and Option Topic** This covers radioactivity, nuclear energy, thermal properties of materials and kinetic theory of gases. An option module is also studied. Currently we study Turning Points in Physics which covers the important experiments and theories that changed our understanding. **Examination – written paper 105 mins. Taken in June.** **20% of A level**
Unit 3 Investigative and Practical Skills Assessed by PSA activities and either an ISA or EMPA practical exam. **20% of AS** **10% of full A Level.**	**Unit 6. Investigative and Practical Skills** Assessed by PSA activities and either an ISA or EMPA practical exam. **10% of full A level.**

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

Entry Requirements
Candidates should be advised that a Grade B or better in both Core and Additional Science or Separate Physics is the normal entry requirement for this subject.

Studying 'A' Level Maths is an advantage for Physics students but is not a formal requirement. Candidates must have achieved a grade B or better at GCSE Maths before starting AS Physics.

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, world wide 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 evermore 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.

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