



Head of subject: **Miss M Ma**

Minimum entry requirements:

Grade 7 in GCSE Physics or

7-7 in Combined Science and

Grade 6 in GCSE Mathematics

Physics

What will you study in Year 12?

In Year 12, topics include studying ideas from the fundamental groundings of Newtonian mechanics and waves through to the fascinating world of quantum behaviour, from behaviour of materials to the study of DC electricity. Student will also develop their practical, analytic and mathematical skills.

What will you study in Year 13?

In Year 13, you will also venture into the exciting world of the very small, in particle physics, and the very large in astrophysics and cosmology. We also introduce some of the fundamental laws of thermal physics, study electric and magnetic fields and also the decay of radioactive nuclei.

How will you be assessed during the course?

Internal assessment:

Students will be assessed in class and for homework using practise examination style questions.

End of topic tests will also be used to contribute to termly assessment grades.

External Assessment:

Assessment is by 3 written examinations

- Paper 1 (30%) 1hr 45 minutes. (Mechanics, Electricity, Fields and Particle Physics)
- Paper 2 (30%) 1hr 45 minutes. (Materials, Waves, Space, Thermodynamics and Nuclear Physics)
- Paper 3 (40%) 2hrs 30 minutes. (Synoptic questions drawing on several topics within a question).

Practical skills assessment:

The externally assessed coursework element has been removed and a practical endorsement element has replaced this. Experimental skills will now be assessed through a series of twelve practical tasks that take place throughout year 12 and 13 programmes of study. The emphasis is now on good experimental Physics procedures and to be able to critically analyse results, which could include the use of computer models to allow for rich and fulfilling class discussions.

Where will this course lead?

Physics is an essential A-level choice for a career in engineering and can often be advantageous for a career in medicine. An A level in Physics will demonstrate you have acquired a wide variety of skills from practical work to problem solving and thinking skills and will therefore be a good basis for a path into many degree courses.

Further information

Students will follow the Edexcel specification. This A-level course builds upon the skills that students will have acquired from their KS4 programme of study. Link to the Edexcel course specification:

<https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/physics-2015.html>

The department also offers students the opportunity to visit the International Particle Research Centre at CERN, Switzerland, providing an excellent opportunity to visit an area where cutting-edge research into Physics is taking place. To build on leadership skills, students can run Robot Club for younger students. We have strong industry links with Leonardo engineering company who offer work shadowing and apprenticeships.