Preparing for A-Level Physics - Info

Physics at A-Level

The Course

The course consists of 2 units covering a range of Physics topics that extend the knowledge you met at KS4 and introduces some completely new concepts. There are two areas of assessment of your practical skills, 12 practical tasks that are completed in lessons and questions on exam paper 3.

The aims of the Physics specification are to encourage you to:

- Develop essential knowledge and understanding in physics and, where appropriate, the applications of physics
- Develop an understanding of the link between theory and experiment
- Appreciate how physics has developed and is used in present day society
- Sustain and develop their enjoyment of, and interest in, physics

Summary of Physics content

You may recognise topic titles from GCSE work. In many topics we will be extending current knowledge. Other ideas will be brand new. Both will challenge and develop your understanding of world around you.

In addition to Physics knowledge, your maths skills will continue to be developed.

Unit 1	Unit 2
• Working as a Physicist • Mechanics • Electric Circuits • Further Mechanics • Electric & Magnetic Fields • Nuclear & Particle Physics	• Working as a Physicist • Materials • Wave & Particle Nature of Light • Thermodynamics • Space • Nuclear Radiation • Gravitational Fields • Oscillations

The 3 A-Level Unit Papers

Paper 1: Advanced Physics I	***Paper code: 9PH0/01**
• Externally assessed • Availability: May/June • First assessments: 2017	**30% of the total qualification**

Paper 2: Advanced Physics II	***Paper code: 9PH0/02**
• Externally assessed • Availability: May/June • First assessments: 2017	**30% of the total qualification**

Each paper lasts 1 hour 45 minutes and consists of 90 marks. They include a variety of questions styles including multiple choice, calculations and extended writing.

Paper 3: General and Practical Principles in Physics	***Paper code: 9PH0/03**
• Externally assessed • Availability: May/June • First assessments: 2017	**40% of the total qualification**
Overview of content • Questions in this paper may draw on any of the topics in this specification. • The paper will include synoptic questions that may draw on two or more different topics. • The paper will include questions that assess conceptual and theoretical understanding of experimental methods (indirect practical skills) that will draw on students' experiences of the core practicals.	

This paper lasts 2 hours 30 minutes and consists of 120 marks. It includes a variety of questions styles including multiple choice, calculations and extended writing. It is synoptic – it refers to any and all learning. It also asks questions that cover practical skills, such as planning, data handling, graph drawing/interpretation.

Maths Skills

There will be questions that target Maths at level 2 (Higher GCSE) and above in all three exam papers – a minimum of 40% of all marks availably across all three papers will be mathematical.

The A-Level Practical Skills Endorsement

Science Practical Endorsement**	***Paper code: 9PH0/04**
• Internally assessed and externally moderated by Pearson • Availability: May/June • First assessment: 2017	
Overview of content This qualification will give students opportunities to use relevant apparatus and techniques to develop and demonstrate specific practical skills. These skills must be assessed through a minimum of 12 identified practical activities within each qualification. The assessment outcomes will be reported separately on students' certificates alongside the overall grade for the qualification. To achieve a pass, students must demonstrate that they are competent in all of the practical skills listed in the subject content requirements for physics, as published by the Department for Education. Students must show practical competency by completing a number of core practicals throughout the course. These experiments will enable students to cover the practical skills that are required for physics as described in *Appendix 5c.*	

Prior Learning

Advanced Subsidiary and Advanced GCE Physics are level 3 qualifications in the National Qualifications Framework. Students undertaking either course are expected to have an appropriate qualification at level 2, for example at least grade C in GCSE Science: Double Award or GCSE Science: Physics. Students should also have attained GCSE Mathematics grade C or an equivalent qualification.

However, at The de Ferrers Academy we believe successful A-Level students need at least 6 in GCSE Physics or Combined Science to ensure students have understood GCSE level Physcs content to **Higher** tier.

We also require 6 grade Mathematics, as Higher tier GCSE Maths provides the basic skills needed, upon which we will build the more advanced techniques required by the course.

The Exams

All exams are now conducted in the summer session of Year 13.

Topics will be assessed using End of Topic assessments, based on past exam questions. These will be graded to give an indication of potential final grades.

It is likely the academy will still employ formal internal assessments (PPE/mock/end of year). These will also be based on past exams and graded accordingly.