A-LEVEL PHYSICS

TOGETHER WE SUCCEED

ACHIEVEMENT ASPIRATION HIGH EXPECTATIONS COMMUNITY

A-LEVEL PHYSICS
EXAM BOARD: AQA PHYSICS A

Aims of the Course:

A study of physics aims to develop in-depth knowledge and understanding of the principles of physics from practical work and its analysis to the current theories. You will learn to appreciate its relevance beyond the laboratory and see how physics links to other sciences and how the subject underpins important technologies.

Programme of Study:

Unit 1: Measurements and their errors
Unit 2: Particles and radiation
Unit 3: Waves
Unit 4: Mechanics and materials
Unit 5: Electricity
Unit 6: Further mechanics and thermal physics
Unit 7: Fields and their consequences
Unit 8: Nuclear physics
Unit 9: Astrophysics

Assessment for A level – in June of Y13:

Remember that any internal assessments from Y12 do not count and the assessments will cover all material from Years 1 and 2 of the A-Level course.
Paper 1 – Units 1-5 and 6.1 (worth 33% of the A level qualification)
Paper 2 – Units 6.2, 7 and 8 (worth 33% of the A level qualification)
Paper 3 – Practical skills and unit 9 (worth 34% of the A level qualification)

Approaches to Learning:

Since practical work comprises a significant part of the assessment, experimental work and its analysis will take up a good proportion of the time.
There will be problem solving requiring the use of mathematics, class and group discussions and independent research.

This course is for you if you are curious about the world we live in from the smallest particles to the largest galaxies in the universe through to every day phenomena. You should enjoy using mathematical skills and be able to think logically.

This course will prepare you for a wide range of degrees and careers. Physics is highly regarded by universities as a test of logical thought and problem solving ability so students who have studies Physics at A level will go on to study Accountancy, Computing, Finance, Law, Medicine, Mathematics as well as Physics and Engineering.

Minimum Entry Requirements:

Five grade 9-5 GCSE passes including English and Maths. You are required to have a 9-6 in Maths. A 66 in Double Science (Trilogy) or a 6 in Physics is required.

STEP-UP INDEPENDENT STUDY TASKS

Physics Transition Tasks:
The first task will help you understand the wider impact of Physics and its significance to everyday life. It will encourage you to consider Physics in its wider context and how different aspects of Physics relate to each other.

The second task will help you practise and develop some of the skills which are assumed as basic skills at A-Level and principally some of the maths skills you will routinely use.

Task 1

Physics at the heartof everything.

Find and read at least 3 Physics related articles. You should use a variety of sources and write a few paragraphs (no more than 1 side of A4 for each article) on each of the main Physics findings and the impact on current physics knowledge or application of physics. Comment on the significance of the Physics. Using your own criteria select one of the articles and comment on why you would recommend it to one of your peers.

Use for example:

BBC i-player, YouTube,New Scientist, or science internet sites e.g.
www.NASA.gov
www.newscientist.com
www.home.cern
www.space.com
www.reddit.com/r/science

Remember to correctly reference the article, its author, its source, date etc and avoid plagiarism.

Submit your reviewas a written report.

Task 2

Developing Essential Skills

This task is to help consolidate some of the skills you have already been developing in your education so far. At A-Level these skills are considered essential basic skills and it is assumed that you can routinely and confidently apply and use these skills.

Complete the workbook and submit it to us.

Task 2 Resource - Workbook

TO DEEPEN YOUR UNDERSTANDING

Be mindful that the A-Level Physics course, like most A-Levels, assumes that you know your GCSE content. It is referred to as "assumed prior knowledge". You should therefore spend some time before starting your course in September in making sure that you are confident on the Physics aspects from your GCSE. You will be aware that Physics does involve a certain skill level in Maths, so it would be advantageous to you to also develop and practice your math skills since they will also be an integral part of the Physics course. There are also aspects of Chemistry that overlap with Physics that you should review as well. In particular this includes atomic structure, electron configuration, mole calculations, atomic mass and related aspects.

Consider acquiring a copy of the CGP book "Head start to AS Physics" and work through all of the questions in each section which will help you structure your preparation before starting the course.

Give yourself as much of a head start as you can.

COMPLETED TASK

Student Name			
Subject Teacher		Date:	
Form Tutor:		Date:	