

AS/A2 Level Physics

Teachers: Mr Warren & Mr Tucker

Entry Requirements:

You will need a minimum of a 'B' grade in Double Science and Mathematics - There is a lot of work with numbers, algebra, and graph plotting. Physics is a useful and respected A-level to have. Not everyone is suited to its style and demands but effort and determination should get anyone a good AS level. Those who find they have an aptitude can then continue to enjoy the second year.

SUMMARY OF THE COURSE:

AS

The work covers forces, motion, work, power, electric current, circuits, electromagnetism, electrons, photons, and waves of all sorts. There are three modules and they are all examined at the end of the year.

You will find an overlap with the physics you have studied already and a gentle extension into a more rigorous approach to the subject. Experiments are used to investigate most topics so that laws and theory are seen to be based on evidence. Doing experiments both individually and in a group is a good way to learn and gain skills.

A2

The ideas and maths get more complicated and the pace faster. By the January exams the work will have covered motion, work, energy, motion in a circle, oscillations, gravitational fields, electric fields, capacitors, electromagnetism, induction, thermal physics, the nucleus, and radioactivity, all in one module. The strange world of the nucleus is introduced where things are unimaginably small, densities are the same as in neutron stars and particles appear and disappear from nowhere.

EXAMINATION STRUCTURE

AS

1. Mechanics, 1 hour, 30%.
2. Electrons, Waves and Photons, 1 hour 45 minutes, 50%.
3. Experimental skills 20%.

In both AS and A2, there is no coursework. Instead, there will be three short "practical examinations" each lasting approximately one double lesson. Students will be prepared by undertaking similar practical work to what will be involved in the examination. In total, this will contribute 20% of the marks both to AS and A2

A candidate should be able to:-

- use techniques, apparatus and materials.
- make and record observations, measurements and estimates.
- interpret and evaluate observations and experimental results.
- select techniques, apparatus and materials.
- evaluate methods and suggest possible improvements.

A2

1. Newtonian World 1 hour, 30%.
2. Fields, Particles and Frontiers of Physics, 1 hour 45 minutes, 50%.
3. Experimental skills 20%

At A2, the skills are the same as AS but taken to a higher standard