Holly Lodge High School A Level Physics 2021-2023

A Level Physics

A level Physics gives you the opportunity to explore the phenomena of the universe and to look at theories that explain what is observed. This subject combines practical skills with theoretical ideas to develop descriptions of the physical universe. You will learn about everything from kinematics to cosmology and many recent developments in fascinating topics, such as particle physics. If you are interested in the limits of space, the beginning of time and everything in between this is the subject for you. Physics is more than a subject – it trains your brain to think beyond boundaries.

A Level UCAS points

Grade	Points
A*	56
A	48
B	40
C	32
D	24
E	16

Unit 9 Option topic

A choice of option topics
- Astrophysics
- Medical Physics
- Engineering Physics
- Turning points in Physics
- Electronics

Unit 8 Nuclear Physics

This section builds on the work of Particles and radiation to link the properties of the nucleus to the production of nuclear power.

Develop the characteristics of the nucleus, the properties of unstable nuclei, and the link between energy and mass.

Unit 7 Fields

The ideas of gravitation, electrostatics and magnetic field theory are developed within the topic to emphasise this unification.

Practical applications considered include: planetary and satellite orbits, capacitance and capacitors, their charge and discharge through resistors, and electromagnetic induction.

Unit 6 Further mechanics and thermal physics

The earlier study of mechanics is further advanced through a consideration of circular motion and simple harmonic motion (the harmonic oscillator).

Knowledge of the thermal properties of materials, the properties and nature of ideal gases, and the molecular kinetic theory to be studied in depth..

Unit 5 Electricity

Further development of practical skills at an early stage in the course and lays the groundwork for later study of the many electrical applications that are important to society.

YEAR TWO

Unit 4 Mechanics and energy

Vectors and their treatment are introduced followed by development of forces, energy and momentum.

The section continues with a study of materials considered in terms of their bulk properties and tensile strength.

The development of knowledge of the characteristics, properties, and applications of travelling waves and stationary waves.

Unit 3 Waves

The experimental interpretation of refraction, diffraction, superposition and interference.

Unit 2 Particles and radiation

Know the fundamental properties of matter, and to electromagnetic radiation and quantum phenomena.

Unit 1 Measurements and their errors

A working knowledge of the specified fundamental (base) units of measurement and the ability to carry through reasonable.

YEAR ONE

Cultural Capital

- Problem Solving Skills
- Gain experience indifferent experiences within the science community
- Research and analytical skills
- Interpersonal and intrapersonal Skills

Course Outcomes

This Physics course is a stepping stone to future study of Physics or a related area. A level Physics gives you the opportunity to explore the phenomena of the universe and to look at theories that explain what is observed. This subject combines practical skills with theoretical ideas to develop descriptions of the physical universe.

Size and Structure

2 papers each covering about half of the main course content

Paper 1: 34% of the total mark

Paper 2: 34% of the total mark

A third paper with data response / synoptic questions which can come from any part of the specification, plus questions on the option topic

Paper 3: 32% of total mark

The practical skills assessment involves performing a series of twelve experiments in class time which are assessed

Pass/Fail mark. Assessment must be passed to pass the course.