

Physics A Level

If you are interested in learning about our universe, from the smallest entity within it to the universe itself, then A Level Physics is for you. This content led approach allows you to develop your knowledge and understanding of the laws of physics and apply them to solve problems on topics ranging from sub-atomic particles to the universe. This course will also develop your practical skillset, where relationships between quantities defined by laws are investigated and analysed.

Module 1 – Development of practical skills in Physics

- 1.1 Practical skills assessed in a written examination
- 1.2 Practical skills assessed in the practical endorsement

Module 2 – Foundations of Physics

- 2.1 Physical quantities and units
- 2.2 Making measurements and analysing data
- 2.3 Nature of quantities

Module 3 – Forces and motion

- 3.1 Motion
- 3.2 Forces in action
- 3.3 Work, energy and power
- 3.4 Materials
- 3.5 Momentum

Module 4 – Electrons, Waves and Photons

- 4.1 Charge and current
- 4.2 Energy, power and resistance
- 4.3 Electrical circuits
- 4.4 Waves
- 4.5 Quantum physics

Module 5 – Newtonian world and Astrophysics

- 5.1 Thermal physics
- 5.2 Circular motion
- 5.3 Oscillations
- 5.4 Gravitational fields
- 5.5 Astrophysics and cosmology

Module 6 – Particles and medical Physics

- 6.1 Capacitors
- 6.2 Electric fields
- 6.3 Electromagnetism
- 6.4 Nuclear and particle physics
- 6.5 Medical imaging

Support

The course is challenging and requires individuals to work hard both inside and outside of the classroom. There will be five hours of direct teaching per week. We expect students to complete at least 1 hour of independent study for every hour taught in class. All teacher resources, homework tasks, tests, and mark schemes are uploaded to Google Classroom. Students should seek support when they need it outside of lessons; the Physics teachers have an open door policy, meaning you can go to them at any time for support, either in person or by email/Google Classroom.

Assessment

As with any A Level course, the majority of assessment will be external (written exam), although performance in practical tasks will also be reported.

There are three examinations

Modelling physics - 100 marks, 2 hours 15 minutes (written paper)

Exploring physics - 100 marks, 2 hours 15 minutes (written paper)

Unified physics - 70 marks, 1 hour 30 minutes (written paper)

Progression

Traditionally A Level Physics students' progress to University. Being a facilitating A Level, it can provide entry not just to Science degree courses, but also a wide range of political, economic and engineering based qualifications.

Entry Requirements

- Grade 6 or above in GCSE Science
- Grade 6 or above in Mathematics and English Language
- 5 GCSEs at grade 5 and above

