

PHYSICS (Edexcel)

WHY STUDY A-LEVEL PHYSICS?

Physics A level builds on the topics studied at GCSE and looks at some of the big questions like “How did the universe begin?”, “What are the basic building blocks of matter?” and “How does the Sun keep on shining?” Physics also enables students to express their mathematical understanding of concepts such as forces, cosmology and quantum theory. Physics students develop skills in areas such as: problem solving, reasoning, numeracy, ICT and communication.



WHAT QUALIFICATIONS ARE NEEDED?

It is not essential to study A-Level Mathematics. However, a high level of numeracy is required and demands that students have a sound knowledge of basic Maths.

WHAT TOPICS WILL YOU STUDY?

Year 12

1. Working as a Physicist
2. Mechanics
3. Electric Circuits
4. Materials
5. Waves and Particle Nature of Light

Year 13

6. Further Mechanics
7. Electric and Magnetic fields
8. Nuclear and Particle
9. Thermodynamics
10. Space
11. Nuclear Radiation
12. Gravitational Fields
13. Oscillations

ASSESSMENT:

Paper one – 1 hour 45 minutes of questions from topics 1, 2, 3, 6, 7 and 8 [30%]

Paper two – 1 hour 45 minutes of questions from topics 1, 4, 5, 9, 10, 11, 12, and 13 [30%]

Paper three – 2 hours 30 minutes of synoptic questions from all topics of the course & questions to assess students' indirect practical skills drawing on the core practicals [40%]

Science Practical Endorsement (Internally assessed and externally moderated) Students use relevant apparatus and techniques to develop and demonstrate specific practical skills assessed through a minimum of 12 practicals. The Practical Endorsement will not contribute to the overall grade, but the result will be recorded on the student's certificate.

ST MICHAEL'S CATHOLIC GRAMMAR SCHOOL

ACADEMIC ENRICHMENT AND TRIPS

- Physics clinic, a weekly drop-in session where students can get one-to-one support with homework and preparation for university entrance exams, advice on careers and university applications.
- Students compete in the British Physics Olympiad
- Year 12 Study day at Physics in Action
- Each year a team of Year 12 students compete in the Imperial College Physics Summer School
- Year 13 visit to Bayfordbury Observatory at the University of Hertfordshire to undertake workshops to support the teaching of the Space topic.
- A highlight of the course is the trip to CERN in Year 13 to meet CERN scientists and consolidate learning on the Particle Physics topic

You will become a member of a friendly Physics Department, which delivers excellent results. You will acquire the skill of organising your study time efficiently. Each hour in class is backed up by an hour of private study comprising of problem solving, practical write-ups and background reading. During the course you will be expected to attend outside lectures and courses. We trust that studying Physics at St. Michael's will be a rewarding experience for you. You will be following in the footsteps of many students who today are successful scientists, engineers, medics, lawyers, city financiers, architects and CERN particle physicists.

“Whatever you want to be in life, Physics will help you achieve it”

