

SUBJECT GUIDE:

Exam Board - OCR

1 year - AS (Standalone) AS (Standalone)

2 years - A Level

1 year - A Level Intensive

WHY CHOOSE PHYSICS:

Physics is the most fundamental of all the sciences, and is the basis of many scientific and technological ideas. The subject looks at how things work and the principles and laws that predict their behaviour. This ranges from the large scale of the Earth and Universe to the very small scale of atoms and subatomic particles. If you wish to embark upon a career in some form of engineering, Physics is an essential subject to study at A Level. It is also a particularly useful choice for students who want to study medicine, physiotherapy, or veterinary science. It is often chosen in combination with the other sciences, which it complements well. Otherwise it is simply a good standard A Level and AS Level to include in any combination of subjects.

HOW WE STUDY PHYSICS:

Physics is a way of looking at our world, our Universe, that tries to explain in words, pictures and mathematical equations, why things are the way they are. At Regent College, Physics is taught rather in a more visual way which involves PowerPoint Presentations with lots of animations, practical investigations etc. which has been highly appreciated by our Physics learners at all levels as this approach of teaching helps the students - to 'See Physics', 'Do Physics' and 'Learn Physics' in a better way.

In addition to their text books, students are given a copy of notes of high standards on each unit which covers the whole syllabus

and a copy of the PowerPoint Presentations slides used during the teaching. Students are assessed regularly through class-tests, homework etc. and pre-arranged individual helps are provided to struggling Physics learners.

LEARNING SKILLS REQUIRED:

It is generally regarded as a fairly demanding subject, but this should not put you off. If you liked studying science at GCSE, obtained a good result (C or above in GCSE), and are comfortable with basic algebra, you will be able to cope with it. However, an enthusiasm to study Physics in much greater depth than you did at GCSE level is essential to do A Level Physics.

WHAT WE STUDY:

The A Level in Physics A specification content is divided into six teaching modules:

Module 1 - Development of practical skills in Physics

Module 2 - Foundations of physics

Module 3 - Forces and motion

Module 4 - Electrons, waves and photons

Module 5 - Newtonian world and Astrophysics

Module 6 - Particles and medical physics

The first four modules comprise the standalone AS Level in Physics qualification and learners studying the A level, continue with the content of modules 5 and 6 in Year 13.

Unit-1: Modelling physics - 100 marks;
2 hours 15 minutes written paper.
Exam Weighting: 37% of total A-Level.

Unit-2: Exploring physics - 100 marks
2 hours 15 minutes written paper.
Exam Weighting: 37% of total A-Level.

Unit-3: Unified physics - 70 marks
1 hour 30 minutes written paper.
Exam Weighting: 26% of total A-Level.

COURSE READING LIST:

1. A Level Physics for OCR (A) - Year-1,
by Graham Bone & GurinderChadha.
ISBN: 978-0-19-835217-4.
Publisher: Oxford University Press.

2. A Level Physics for OCR (A) - Year-2,
by Graham Bone & GurinderChadha.
ISBN: 978-0-19-835766-7.
Publisher: Oxford University Press.

PROGRESS PATHS:

Physics opens doors to a wide variety of careers. The career opportunities available are as vast as the subject itself due, in part, to the transferable skills gained whilst studying Physics. It is these transferable skills that make the difference between an employee who is merely satisfactory and one who will significantly improve the performance of the organisation concerned. Employers see a physics qualification as an indication of someone who will immediately be an asset to the organisation. This is because: Physics requires a logical and numerate mind. The ability to solve problems, gained through studying Physics, is of paramount importance to the future of technology.

Communication skills are developed through report-writing and presentations. Computing and practical skills are second nature to those trained in Physics. Teamwork and flexibility are essential in lab work and projects.

Your future matters. So, if you have an enquiring mind, enjoy a challenge and like solving problems, give yourself the best chance by studying Physics - the subject of the future.

THE PHYSICS DEPARTMENT:

Mr. Rajeeb Chakraborty - MInstP, B.Sc. (Hons.) & M.Sc. (Physics), M.Sc. (Water Pollution Control), PGCE - Head of Physics.

Mr Chakraborty has been at Regent College for many years now after moving from the Swaminarayan Independent School in Neasden. In addition to his extensive experience of working in both state and independent schools for a long time, Mr. Chakraborty has a unique approach to teaching Physics and has been extremely successful in motivating students. He is also an A-Level Physics examiner of Edexcel Examinations Board and assists the College with its international admissions.