



# PHYSICS

**SPANNING THE BEHAVIOUR OF SUBATOMIC PARTICLES, RIGHT UP TO UNDERSTANDING THE ENTIRE UNIVERSE, PHYSICS TACKLES THE UNDERLYING NATURE OF EVERYTHING. THIS CHALLENGING AND REWARDING COURSE DELVES DEEP INTO THE FUNDAMENTAL NATURE OF THE UNIVERSE AND LOOKS AT HOW WE CAN EXPLAIN AND MATHEMATICALLY MODEL THE MYRIAD PHENOMENA THAT EXIST IN NATURE.**

## TOPICS YOU'LL COVER

### YEAR ONE

- Forces and motion
- Waves, interference, light and sound
- Quantum theory & photon model of light
- Electric charge and electric circuits.

### YEAR TWO

- Circular motion and oscillations.
- Thermal energy and the gas laws
- Medical physics and particle physics
- Electric, gravitational and magnetic fields
- Astrophysics and cosmology.

## ASSESSMENT

A Level grade is based solely on exams at the end of the second year. There are three exams. There is also a non-exam assessment of practical skills, which results in a Practical Endorsement

## ENTRY REQUIREMENTS

Five GCSEs at grade 5 or above, including Maths and Science (Physics or double award) at grade 6 and English Language at grade 5.

## PROGRESSION POSSIBILITIES

**CAREERS:** Engineer, medical physicist, financial analyst, computer scientist, environmental scientist, materials scientist,

industrial researcher, product designer, research technician, meteorologist.

**UNIVERSITY STUDY:** Physics, Engineering, Mathematics, Computer Science, Radiography, Architecture, Medicine, Science.

## SKILLS DEVELOPED

You will develop a wide range of skills including the ability to:

- Apply a wide range of ideas to understanding new situations
- Solve complex problems
- Clearly describe and explain complex systems
- Relate mathematics to the way the Universe behaves.

## ENRICHMENT OPPORTUNITIES

Trip to attend talks and workshops at the University of Southampton including:

- Trip: Institute of Sound and Vibration Research
- Attending talks on Black Hole and Pulsars
- Attending a workshop on particle physics
- Specialist speakers on a range of topics including: Electronic Engineering and artificial intelligence, Working in Medical Physics, Sustainability and environmental pollution.

## QUALIFICATION

A LEVEL

LEVEL

LEVEL 3

CURRENT EXAM BOARD

OCR

## CURIOS ABOUT... PHYSICS?



Follow @massimo, @sixtysymbols, @nakedscientists, @smartereveryday, @thephysicsgirl on Twitter



Watch - Videos on the Veritasium Channel on Youtube

**Disclaimer:** Information in this course leaflet is for September 2021 entry and is accurate at time of printing. All information provided is subject to change and may be updated during the academic year. Courses offered by the College are subject to change and are reviewed on an annual basis.