

# ***A Level Physics OCR (A Level Physics A Spec)***

**Overview:** Studying A Level Physics at a UTC offers students the unique opportunity to explore the fundamental principles that shape our universe in a practical, industry-focused environment. The course is designed to develop strong analytical, problem-solving, and mathematical skills. With access to specialist equipment and opportunities for hands-on learning, students benefit from close links with industry partners, providing a real-world context to their studies. This practical approach not only supports students in grasping challenging concepts but also enhances their understanding of how physics is applied in cutting-edge technologies and industries.

## **Why Study A Level Physics?**

Physics is a fundamental science that helps us understand the workings of the universe, from the tiniest particles to the vastness of space. This course is ideal for students who are curious about how the world works and enjoy applying mathematical concepts to real-world problems. Physics is also highly respected by universities and employers, opening up pathways in fields like engineering, data analysis, astronomy, medical physics, and more.

## **Potential Career Pathways:**

Physics is a highly versatile subject that can lead to a variety of pathways including:-

- Engineering
- Research
- Software Development
- Space Science
- Renewable Energy
- .....and many others.

Studying physics is also an excellent foundation for careers in medicine, finance, and any field requiring problem-solving skills.

## **Topics Covered:**

- Year 1 Topics:
- Development of Practical Skills
- Motion
- Forces in Action
- Work, Energy, and Power
- Materials
- Newton's Laws of Motion and Momentum
- Charge and Current
- Energy, Power, and Resistance
- Electrical Circuits
- Waves
- Quantum Physics

## **Year 2 Topics:**

- Thermal Physics
- Circular Motion
- Oscillations
- Gravitational Fields
- Astrophysics and Cosmology

## **Assessment:**

- Modelling Physics (Paper 1): 2 hours 15 minutes written paper, 37% of A Level
- Exploring Physics (Paper 2): 2 hours 15 minutes written paper, 37% of A Level.
- Unified Physics (Paper 3): 1 hour 30 minutes written paper, 26% of A Level.

## **Entry Requirements:**

- Grade 6 in Physics GCSE or
- Grade 6/6 in Combined Science GCSE
- Grade 6 in GCSE Mathematics
- Grade 5 in GCSE English Language

