

The **BTEC Level 3 National Extended Certificate in Applied Science** is a vocational qualification equivalent to one A-Level. It provides learners with a broad understanding of scientific principles and practical skills in biology, chemistry, and physics. The course is designed for students interested in science-related careers or higher education, offering a blend of academic study and hands-on laboratory work.

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### Key Features

1. **Qualification Level:** Equivalent to one A-Level.
  2. **Assessment:**
    - A combination of **internal coursework** and **external assessments**.
    - Emphasis on applying theoretical knowledge to practical and real-world scenarios.
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### Units of Study

The course includes **four units**:

#### Mandatory Units:

1. **Principles and Applications of Science I** (externally assessed):
  - Covers key concepts in biology, chemistry, and physics.
  - Topics include cell structure, periodic table, chemical reactions, and waves in communication.
2. **Practical Scientific Procedures and Techniques** (internally assessed):
  - Focuses on essential laboratory techniques such as titrations, calorimetry, chromatography, and the use of scientific equipment.
  - Students maintain a portfolio of practical investigations.
3. **Science Investigation Skills** (externally assessed):
  - A practical unit where students design and carry out scientific investigations.
  - Assesses planning, observation, data analysis, and evaluation skills.

#### Optional Unit (internally assessed, chosen by the institution):

Examples include:

- **Physiology of Human Body Systems:** Exploring human anatomy and physiology.
  - **Applications of Organic Chemistry:** Understanding organic compounds and their uses.
  - **Medical Physics Applications:** Investigating diagnostic and therapeutic techniques.
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### Skills Developed

- **Practical Laboratory Skills:** Mastery of key scientific techniques and safety protocols.
- **Analytical Thinking:** Analyzing experimental data and interpreting results.

- **Problem-Solving:** Designing and conducting experiments to test hypotheses.
  - **Communication Skills:** Writing scientific reports and presenting findings.
  - **Teamwork:** Collaborating in lab-based projects.
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### **Career Pathways**

This qualification provides a foundation for:

1. **Higher Education:** Degrees in forensic science, biomedical science, environmental science, chemistry, or engineering.
  2. **Apprenticeships:** Roles in laboratory technician work, healthcare science, or pharmaceutical industries.
  3. **Employment:** Positions such as lab assistant, scientific support technician, or roles in quality control and environmental monitoring.
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### **Who Is It For?**

- Students with a keen interest in science and its practical applications.
- Those seeking a mix of academic and vocational learning.
- Learners who aim to progress to science-based careers, apprenticeships, or higher education.