

OCR Cambridge Level 3 Applied Science—with Forensics

Entry Requirements: English 5, Maths 5, Science Combined/Triple 5 as well as two other GCSEs at 5 or above.

The two-year course in Applied Science is designed to give students a broad, practical understanding of how science operates in the real world. The course combines academic theory with hands-on laboratory experience, allowing learners to develop both the knowledge and the technical skills required for further study or employment in science-related areas. Throughout the programme, students build a strong foundation in biology, chemistry and physics, gaining an appreciation of the key principles that underpin scientific practice. A major focus is placed on developing confidence in laboratory techniques — students learn how to plan and carry out investigations safely, collect and analyse data accurately, and evaluate their results critically.

The course encourages learners to apply scientific knowledge to real-world contexts such as healthcare, forensics, and environmental science, showing how scientific understanding directly impacts society and industry. In doing so, students develop essential analytical and problem-solving abilities, as well as the capacity to evaluate evidence and think independently.

Ultimately, the qualification prepares students for a range of progression routes. Many go on to higher education in subjects such as biomedical science, environmental science, or forensic science, while others choose apprenticeships or direct employment in laboratory, health, or technical roles. The Extended Certificate provides a balanced mix of theory and application, making it ideal for learners who enjoy science but prefer an applied, coursework-based approach rather than purely exam-focused study.

The course comprises of 5 units and is equivalent to one A-level. Each unit has a clear purpose which focuses the learning of scientific knowledge, understanding and skills in a meaningful context. Assessment is approximately 40% exam, and 60% Non Examined Assessment — NEA (coursework).

Units covered

• F180 – Fundamentals of Science (exam)

This unit covers some of the key science concepts in biology, chemistry and physics. Animal and plant cells; tissues; atomic structure and bonding; chemical and physical properties of substances related to their uses; waves and their application in communications.

• F181 – Science in Society (exam)

This unit examines the role of science in the modern world and how it impacts society. Students will learn about the scientific method, peer review, and the importance of evidence-based decisions. We will explore ethical issues, risk assessment, and how science addresses global challenges. While developing an understanding of how scientists work collaboratively in an international context.

• F182 – Investigating Science (practical NEA)

This unit covers the stages involved and the skills needed in planning a scientific investigation: how to record, interpret, draw scientific conclusions and evaluate. You will learn how to safely carry out practical investigations, or follow prescribed laboratory procedures. In this unit, you will develop the essential skills underpinning practical scientific investigations. These skills will be delivered through subject themes from previous unit and ranging from enzymes and diffusion to electrical circuits.

• F183 – Analytical Techniques in Chemistry

This unit explores the principles and practical applications of chemical analysis used in laboratories and industry. Students learn key techniques such as chromatography (TLC and gas chromatography), spectroscopy (UV-Vis, IR, and atomic absorption), and mass spectrometry to identify and measure substances. They develop practical skills in sample preparation, instrument operation, and data interpretation, applying these methods to real-world contexts like pharmaceutical quality control and environmental testing. Assessment is coursework-based, involving analytical investigations and professional reporting.

• F185 – Forensic Biology

This unit introduces the scientific principles and practical methods used in forensic biology to analyse biological evidence in criminal investigations. Students learn to collect and handle evidence such as DNA, bodily fluids, and trace materials, and apply techniques including microscopy, microbiological analysis, and DNA profiling. Emphasis is placed on maintaining evidence integrity, conducting risk assessments, and evaluating the reliability of results. Assessment is through coursework, typically involving simulated crime scene investigations and formal evidence reporting.

What will I be doing in lessons?

The course is based around applying scientific ideas and techniques in real-life contexts. Learning activities will include practical work, independent research, class discussions, presentations, online interactive tutorials, worksheets and note taking.

As well as knowledge and understanding of the science used in a variety of areas you will develop the following skills:

- Using apparatus skilfully and safely
- Producing and recording valid and reliable measurements and observations
- Presenting and analysing data
- Research skills
- Identifying and evaluating resources
- Clarity of oral and written expression
- Discussion and presentation skills
- Making notes

How will it be assessed?

Assessment is through a assessed through a combination of **externally marked exams** and **internally assessed coursework**. This blended approach allows students to demonstrate both their theoretical understanding and their practical scientific skills.

And after the course?

The qualification may be complemented with other BTEC Nationals or A Levels to support progression to higher education courses in biochemistry, chemistry, forensic science, environmental science, criminology and law.

The requirements of the qualification will mean learners develop the transferable and higher-order skills that are highly regarded by both higher education and employers. For example, carrying out practical laboratory tasks. planning investigations and reporting findings through group presentations and written reports.

Together with two other level three qualifications, this course will enable you access to a huge range of opportunities in the analytical science sector. The qualification has been developed to provide the skills that will allow you to observe, understand, assess and suggest solutions to real world problems and the challenges these jobs require. The knowledge and understanding you will learn will provide a strong basis for you to progress in the science sector and to a variety of science and related programmes.

The main purpose of the qualification is to provide learners with the knowledge, understanding and skills in key scientific principles to support progress to higher education or employment in areas of analytical science, such as job roles in laboratories, school or hospitals.

A significant proportion of career opportunities in this sector are at degree level. When supported by other appropriate qualifications, the level 3 Applied Science will enable progression to higher education to a range of degree and higher applied programmes in the biomedical science and life sciences. A range of degrees in these areas can lead to jobs roles including forensic scientist, police officer, research scientist, teacher, engineer and the health sector.

Alternatively moving straight into paid work after this course is possible in laboratories including hospital, research, school, college, forensic science or quality control facilities.