

# BTEC Applied Science

## Pathway 2

### Course description:

This is a two year vocational course which aims to give you an opportunity to gain a nationally recognised A level equivalent qualification that will enable you to seek employment in all Scientific sectors. You will develop a detailed understanding in such areas as: the fundamentals of the three Science disciplines, practical techniques and the use of Science in industry.

### Qualifications required:

- In line with the entry requirements for a Pathway 2 subject.
- Grade 4 in both GCSE Core and Additional Science
- Grade 4 and 5 in English Language and Maths. This combination of grades can be either way round.

### Aims of the course:

- Applied Science is a practical, work-related course. You learn by completing projects and assignments that are based on realistic workplace situations, activities and demands.
- You will complete four units over the two years of the course. Two of the units are externally marked and two are internally assessed by tutors and externally validated by the awarding body.
- Unit one is via examination (25%) and Unit 3 is via a practical based assessment task (33%) making a total of 58% external assessment.

### Future prospects:

This course is particularly relevant for those students who wish to enter areas of laboratory science, forensic science, medical science or environmental science. It can also be used to apply for degrees at University.

### Student feedback:

“The mixture of practical and academic knowledge means that I know what I am talking about when it comes to jobs and university choices.”

### Subject Teachers:

Head of Subject: Mr A Smith-Martin, Miss D McLaughlin

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## Features of the course:

There is a good balance of the academic and practical, giving students a wide perspective of the areas that they study.

### Unit 1 – Principles & Applications of Science

This unit covers the main key concepts in Biology, Chemistry and Physics. The main areas include: 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.. It will enable the students to:

- use the necessary skills to measure quantities for chemical reactions
- use the correct equipment to identify structures and functions in types of cells
- investigate different types of energy and their transfers
- communicate scientific information effectively.

### Unit 2 – Practical Scientific Procedures and Techniques

This unit will be introduced to quantitative laboratory techniques, calibration, chromatography, calorimetry and laboratory safety which are relevant to the chemical and life science industries. It will enable the students to:

- Know how procedures are followed and communicated in the scientific workplace.
- Be able to demonstrate safe working practices in the scientific workplace.

### Unit 3 – Scientific Investigation Skills

This unit will cover the stages involved and the skills needed in planning a scientific investigation:

- Demonstrate knowledge and understanding of scientific concepts, procedures, processes and techniques and their application in a practical investigative context
- Interpret and analyse qualitative and quantitative scientific information to make reasoned judgements and draw conclusions based on evidence in a practical investigative context
- Evaluate practical investigative procedures used and their effect on the qualitative and quantitative scientific information obtained to make reasoned judgements

Students will have to pick their remaining unit from the list below and will be able to specialise in areas of interest.

- Physiology of Human Body Systems
- Human Regulation and Reproduction
- Applications of inorganic chemistry
- Application of organic chemistry

## Methods of Assessment:

BTEC Applied Science assignments are over four units.

- 25 % Unit 1 – Principles & Applications of Science (90 GLH) – by external examination.  
25% Unit 2 – Practical Scientific Procedures and Techniques (90 GLH) – internal assessment.  
33% Unit 3 – Science Investigation Skills (120 GLH) – completed under supervision and externally marked by the examination board.  
17% Optional unit (60 GLH) – internal assessment.