

# Applied Science (BTEC Level 3 Nationals)

## Exam Board: Pearson Edexcel

We are proud to offer the BTEC National Applied Science course. As an extended certificate, it is worth the same as a single A-Level covering scientific theory, building on fundamental ideas encountered in GCSE science, incorporating practical and experimental techniques, as well as the development of scientific skills and practices.

Students wishing to participate in this course will need 5 GCSEs with a minimum of a Level 4 in both Maths and English, due to the essential abilities needed for confidently using calculations in analysis techniques and examinations, and the high level of communication required for their portfolio of coursework.

The BTEC Level 3 Nationals Extended Certificate in Applied Science comprises 4 units to be studied over 2 years that consists of 3 mandatory units, 2 of which are externally examined, and 1 optional unit chosen by the course leaders.

## Summary of course content for Year 12

Unit Title	Description	Examinations / Portfolio	GLH
Unit 1: Principles and Applications of Science	This unit covers the some of the key science concepts in biology, physics and chemistry with topic areas spanning animal and plant cells, tissues, atomic structure and bonding, chemical and physical properties of substances, waves and their applications.	Externally assessed written Exam worth 90 marks. <i>Additional information:</i> The paper includes a range of question types including multiple choice, calculations, long and short answer questions. It is split into 3 equal sections (Bio, Chem, Phys) each worth 30 marks.	90
Unit 2: Practical Scientific Procedures and Techniques	Students will be introduced to quantitative laboratory techniques, calibration, chromatography, calorimetry and laboratory safety which are relevant to the chemical and life science industries.	Internally assessed portfolio of work	90
Unit 3: Science Investigation Skills	In this unit, students will cover the stages involved and the skills needed in planning a scientific investigation: how to record, interpret, draw scientific conclusions and evaluate.	Assessed practical activity including an externally assessed written exam. <i>Additional information:</i> The exam is in 2 parts, Part A where the students undertake a practical investigation, and Part B comprising a written task worth 60 marks that uses data recorded in Part A.	120

Unit Title	Description	Examinations / Portfolio	GLH
Unit 12: Diseases and Infections	In this fascinating unit, students will gain an understanding of five types of disease, their causes and how humans try to prevent and treat them.	Internally assessed portfolio of work	60

### Frequently asked questions

#### **How does the BTEC Level 3 Extended Certificate in Applied Science work in practice?**

The course is split into 4 units studied over a 2 year period. The written exam will take place in the January exam period, whilst the coursework unit is covered and internally assessed in June in each year.

#### **What GCSE grades do I need for the Extended Certificate in Applied Science?**

It is important that you have achieved a grade 5 or above in GCSE Science double award; however, you must have at least 5 GCSEs with a grade 4 and above in Maths and English.

#### **What skills do I need to do well?**

There are a number of qualities that are of particular importance in doing well at AQA Applied Science, these are:

- The ability to set and meet coursework deadlines with a high level of organisation
- The ability to write coherently, logically and present work well
- The ability to enthusiastically research topics independently of arranged lessons
- The ability to approach practical work seriously with health and safety in mind

#### **Is there lots of practical work?**

Part of the course requires the learning of practical skills used in laboratories that could be suitable to be developed to a level of a technician working in the science industry. Practical skills are assessed and require a high level of focus, determination and good motor skills.

**Samia Nicolas, Teacher of Science**