

## Statement of Purpose

### 600/6318/X - Pearson BTEC Level 1/Level 2 First Extended Certificate in Applied Science

#### Who is the qualification for?

This qualification is intended as a Substantial Vocational Qualification at level 2 (SVQL2) designed for post-16 students working at this level. It represents 360 guided learning hours.

The qualification is aimed at students who have chosen to focus their learning and career development within the science industry and who are looking for an engaging and stimulating qualification which prepares them for progression to employment and/or to a science-based apprenticeship. Students will have the opportunity to gain a broad understanding of scientific principles and practice as well as enhancing their practical laboratory skills. They will also learn about some sectors of employment within the science industry. The size of the qualification will also enable them to take GCSE maths and English alongside if they need to improve their grades.

#### What does this qualification cover?

The qualification consists of eight compulsory units which make up 50% of the qualification and a choice of a further four (from 16) optional specialist units which make up the remainder.

#### Compulsory units

The compulsory units provide the underpinning knowledge of scientific principles and concepts, as well as the basic scientific and practical skills to support students' progression to an apprenticeship, or further study.

- Unit 1: 'Principles of Science' covers some core scientific concepts and theoretical knowledge that underpin the rest of the units;
- Unit 2: 'Chemistry and Our Earth' requires students to investigate chemical reactivity and bonding, the uses of chemical substances, reaction rates and environmental factors;
- Unit 3: 'Energy and Our Universe' provides an understanding of the Solar System and space exploration and energy production;
- Unit 4 'Biology and Our Environment' requires students to investigate organisms and their environment, and human health;
- Units 5, 6 and 7 enable students to investigate applications of chemistry, physics and biology and
- Unit 8: 'Scientific Skills' enables students to develop and demonstrate practical skills.

Both unit 1 and unit 8 are externally assessed; the other core units are assessed internally through written reports, and records of practical work including analysis of data.

#### Optional specialist units

The optional specialist units enable students to engage with key aspects of the science industry: biomedical science, chemical and physical sciences, forensic science, and environmental science. All units require students to apply scientific principles and skills in work-related contexts to increase their depth of understanding.

This qualification enables students to acquire a range of practical and work-related scientific skills, including carrying out practical laboratory tasks, planning investigations, collecting,

analysing and presenting data, and reviewing and refining the methodology of practical and laboratory based work. They will develop and apply their knowledge of biology, chemistry and physics in a range of vocational contexts, leading to an understanding of how those principles are applied in practice.

Students will also enhance their broader skills in literacy and numeracy, which will be invaluable in support of progression to employment, a science-based apprenticeship and/or to further level 3 Tech Level qualifications.

### **What could this qualification lead to?**

Achievement of this qualification at level 2 would mean that students are prepared to progress into employment or into an apprenticeship in the science industry.

Employment opportunities include junior laboratory technician in a specific range of applied science sectors, for example, the biomedical sector.

Apprenticeships include the Laboratory and Science Technician Advanced Apprenticeship. On this programme students will probably be part of a team of other scientists and technicians, and might help collect and analyse samples; prepare cultures or specimens; set up experiments; and record and present data. They might also be responsible for ordering and controlling laboratory stock and supplies, and making sure laboratory equipment is clean and in good working order.

### **This qualification is part of a larger suite of BTEC Applied Science qualifications**

The Pearson BTEC Level 1/Level 2 First Extended Certificate in Applied Science (360 GLH) is part of a larger suite of Pearson BTEC Level 1/level 2 Firsts in Applied Science, including the Pearson BTEC Level 1/Level 2 First Diploma in Applied Science (480 GLH). Students may choose the Level 1/Level 2 Extended Certificate rather than the Level 1/Level 2 Diploma if they know that there is a specific employment area they wish to prepare for, or if there are additional qualifications they need to take as part of their study programmes, such as maths and English GCSEs, or specialist technical qualifications. Those who wish to prepare for a wider range of employment opportunities are likely to choose the Diploma.

### **Who supports this qualification?**

This qualification is supported by the following employer:

- Feedwater Ltd

The support letter from this organisation will be available at the following link by 3<sup>rd</sup> October:  
<http://www.edexcel.com/quals/firsts2012/applied-science/Pages/default.aspx>.

### **Further information**

Further information on the qualification can also be accessed at  
<http://www.edexcel.com/quals/firsts2012/applied-science/Pages/default.aspx>.