

Statement of Purpose

601/0924/5 – Pearson BTEC Level 1/Level 2 First Award in Engineering Design and Product Investigation

Who is the qualification for?

This qualification is a Technical Award equivalent in size to one GCSE designed in partnership with the Royal Academy of Engineering. It is aimed at pre-16 students working at level 2 who want to include a study of Engineering with a particular focus on engineering design and product development, as part of their broader Key Stage 4 curriculum. When taken as part of a balanced curriculum, there is a clear progression route to a level 3 academic or vocational qualification or an apprenticeship for those who want to take study of this subject further.

What will the student study as part of this qualification?

This qualification consists of three units. The units are designed to cover the knowledge, skills and understanding that employers and educators throughout the sector consider essential for this specialist application.

Investigating an Engineered Product – this unit will ensure students understand the performance requirements of an engineered product and the selection of specific materials for use in the components that make up an engineered product.

Interpreting and Using Engineering Information – this unit looks at how to interpret drawings and other documentation and enables students to use information from drawings and related documentation.

Engineering Design – this unit looks at the factors influencing the design of a new product, and how to develop a product design specification and prepare design proposals and design solutions that meet the requirements of a PDS.

What knowledge and skills will the student develop as part of this qualification and how might these be of use and value in further studies?

The subject-specific knowledge and skills outlined above and developed in studying this qualification will aid progression to further study of Engineering at level 3, particularly a course which includes engineering design and product investigation and will give some initial preparation for entering the workplace in due course.

This BTEC First qualification also provides further opportunity to enhance and reinforce transferable skills in English through extended writing and mathematics with elements of GCSE physics in naturally occurring, relevant, work-related contexts. Communication skills are developed through presentations and in discussions where students have the opportunity to express their opinions.

Which subjects will complement this course?

This qualification is designed to be taken as part of a broad and balanced curriculum at Key Stage 4. It is expected that students will take this qualification alongside GCSEs in EBacc subjects, as well as possibly two non-core GCSEs such as Design and Technology and business and/or other Key Stage 4 vocational qualifications in business and computing.

What are the benefits of this qualification to students?

The engineering sector offers huge potential for learners interested in the subject. The UK is currently regarded as a world leader in sectors including renewable energy, space, low carbon, aerospace, creative industries, utilities, automotive, agri-food and bioscience. Engineers are fundamentally problem solvers. Their work influences our daily lives from making a telephone call, riding a mountain bike, flying in a plane, walking across a bridge and even wearing perfume or aftershave. They solve scientific and practical problems which affect all aspects of our lives underpinning economic activity and quality of life.

There are two suites of BTEC First Awards in engineering to choose from – the Level 1/ level 2 First Award in Engineering, and the three endorsed titles that make up the suite of engineering qualifications developed to replace the level 2 Principal Learning qualification.

This qualification is part of the suite developed in partnership with the Royal Academy of Engineering to replace the Principal Learning qualification in the Higher Diploma. Each of the three qualifications in this suite provides an opportunity to look in more detail at a different aspect of engineering than is possible in the standalone BTEC Level 1/Level 2 First Award in Engineering.

The Level 1/Level 2 First Award in Engineering Design and Product Investigation allows students to focus on a particular aspect of the engineering sector, either individually as part of a broad learning programme, or in combination with other engineering qualifications.

It is not essential to take all three qualifications – students can choose to focus on one or more. This qualification focuses on engineering design and product investigation, while the other two qualifications in the suite cover materials and manufacturing, and electronics and computer control technologies.