

Statement of Purpose

601/0925/7 – Pearson BTEC Level 1/Level 2 First Award in Engineering Electronics and Computer Control Technologies

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 Electronics and Computer Control Technologies in 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?

It includes three units that cover the fundamental knowledge and understanding for this specialist application.

The Engineered World – this unit introduces students to the world of engineering. They will investigate the processes used to manufacture modern products within different engineering sectors. They will also study some of the new developments in materials and engineering technology.

Electrical and Electronic Circuit Construction and Testing – In this unit students will construct and test electronic circuits so that they understand how they work. The unit looks at the basics of working safely by applying safe working practices in relation to electrical and electronic systems.

Computer Applications in Engineering – this unit investigates how technicians use computers when they carry out maintenance on engineering systems. Students will investigate how computers are used in industry to control processes and manufacturing, and why microprocessors are fitted to domestic appliances.

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 and 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 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 Electronics and Computer Control Technologies 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 electronics and computer control technologies, while the other two qualifications in the suite cover design and product investigation, and materials and manufacturing.