

Engineering

The BTEC Level 2 Tech Award in Engineering is for students who want to acquire technical knowledge and skills through vocational contexts by studying mechanical, electrical/electronic and engineering design as part of their Key Stage 4 learning. The course is split into three components that are covered over two years.

Component 1: Exploring Engineering Sectors and Design Applications

Students will develop knowledge and understanding of the engineering industry, how the engineering sectors link together, and how these enable organisations to find solutions to real-life problems. Students will explore the role the design process plays in the production of engineered products. Through practical exercises, they will produce solutions to problems using different combinations of design and modelling engineering skills

Component 2: Investigating an Engineering Project

This component will give students an understanding of the types and properties of metallic and polymeric materials, and proprietary components commonly used in engineered products. They will complete a disassembly of a given engineered product. They will then plan, reproduce, inspect and test a single component.

Component 3: Responding to an Engineering Brief

This component builds on the knowledge and skills learned in Components 1 and 2. They will be given engineering briefs with problems they need to respond to. Their response will include possible solutions that will be tested against the brief. Students will be given the opportunity to carry out tests, collect and analyse data, reflect on your findings, consider any issues, and suggest solutions. Students will have two exams to display their understanding and skills, Part A is knowledge and Part B is more practical based.

Our curriculum at KS4 is as follows:

Year 10
Component 1 Learning Aims: A Understand engineering sectors, products and organisations, and how they interrelate B Explore engineering skills through the design process.
Component 2 Learning aims: A Understand materials, components and processes for a given engineered product B Investigate a given engineered product using disassembly techniques C Plan the manufacture of and safely reproduce/inspect/test a given engineered component
Year 11
Component 3 Learning aims: A Understand how to respond to an engineering brief B Select skills and techniques in response to an engineering brief C Apply skills and techniques in response to an engineering brief D Evaluate and review the outcomes of the application of skills and techniques in response to an engineering brief

