



**ACADEMIC
& APPLIED**

Engineering

**Level 3
BTEC Nationals in England
Extended Certificate (360 GLH)**
Course Leader: Mr D Roberts and Mr S Pearce

Entry requirements

- A good range of GCSE results including at least a C/4 in Maths, English and Science
- An interest in finding out how things work
- Practical and problem solving abilities

Why choose this course?

This qualification provides a broad basis of study for the engineering sector. It has been designed to support progression to higher education when taken as part of a programme of study that includes other appropriate BTEC Nationals or A Levels.

360 GLH

Equivalent in size to one A Level and made up of 4 units. 3 of the 4 units are mandatory, 2 of which are externally assessed.

Mandatory content (83%). External assessment (67%).

- Health and safety
- Engineering principles
- Engineering product design and manufacture
- Engineering hand drawing
- Computer Aided Drawing (CAD)
- Computer Aided Manufacture (CAM)
- Working as an effective team member

Web Links

<http://qualifications.pearson.com/en/home.html>

What does the course involve?**Year 1****Unit 2: Delivery of Engineering Processes Safely as a Team**

Unit in brief Learners explore how processes are undertaken by teams to create engineered products or to deliver engineering services safely.

In this unit you will:

- Examine common engineering processes to create products or deliver services safely and effectively as a team
- Develop two-dimensional computer-aided drawings that can be used in engineering processes
- Carry out engineering processes safely to manufacture a product or to deliver a service effectively as a team

Unit 3: Engineering Product Design and Manufacture

Unit in brief Learners will explore engineering product design and manufacturing processes and will complete activities that consider function, sustainability, materials, form and other factors.

Learning aims:

- Demonstrate knowledge and understanding of engineering products and design
- Apply knowledge and understanding of engineering methodologies, processes, features and procedures to iterative design
- Analyse data and information and make connections between engineering concepts, processes, features, procedures, materials, standards and regulatory requirements
- Evaluate engineering product design ideas, manufacturing processes and other design choices
- Be able to develop and communicate reasoned design solutions with appropriate justification

Year 2**Unit 1: Engineering Principles**

Unit in brief Learners apply mathematical and physical science principles to solve electrical, electronic and mechanical based engineering problems.

Final unit : to be confirmed

Possible career pathway

Engineering based apprenticeship.

Degree courses in: Aerospace Engineering, Automotive Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Marine Engineering and Mechanical Engineering to name a few.

Note: This is our current offer which is subject to change