

# Subject: Level 3 Engineering

## Qualification Details

BTEC Level 3 National Diploma in Engineering  
BTEC Level 3 National Extended Diploma in Engineering

## Teacher Responsible

Mr David Sneddon

## Entry requirements

5 GCSEs at Grade 4 and above. Grade 5 in Maths desirable.

## About the Course

Engineering covers a broad variety of roles, and involves the application of scientific principles and practical knowledge to transform ideas and materials into products and systems safely, and support them during their lifetime. This qualification has a focus on a broad range of engineering specialist areas including electrical and electronic, mechanical, and others for example manufacturing.

The Extended Diploma qualification is equivalent in size to three A-Levels at 1080 GLH (guided learning hours) and is intended to be a Tech. Level qualification. It has also been designed to meet the Tech. Bacc. measure when studied alongside Level 3 Mathematics and the Extended Project Qualification (EPQ). The Diploma course is equivalent to 2 A-Levels.

## Details of Study

Learners study seven mandatory units including the following topics:

- Engineering principles and mathematics
- Health and safety, team work and interpreting and creating computer-aided engineering drawings
- Design and manufacture of products
- Microcontroller systems design and programming.

Through the optional units, learners will study a mix of electrical/electronic, mechanical and other engineering specialist areas. They could include: electronic devices and circuits, electronic measurement and testing of circuits, behaviour of metallic materials, maintenance of mechanical systems, programmable logic controllers, secondary machining processes.

## How is the course assessed?

Units 1, 3 and 6 are set and marked by Pearson, the awarding body.

Unit 1 – Engineering Principles is assessed under exam conditions.

Unit 3 – Engineering Product Design and Manufacture is a controlled assessment task.

Unit 6 – Microcontrollers Systems for Engineers is a controlled assessment task (Extended only).

The remaining unit assignments are created by Waterfront UTC and emphasise the practical application of the assessment, and provide realistic scenarios for students to adopt, making maximum use of practical activities and work experience. Students produce evidence in a variety of different forms, including written reports, graphs and posters, along with projects, performance observation and time-constrained assessments. The assignments are marked internally and moderated by the exam board Pearson.

## Future Pathways

This qualification supports progression to job opportunities in the engineering sector at a variety of levels. Jobs that are available in these areas include:

- Engineering Operative • Manufacturing Operative • Semi-skilled Operative • Engineering Technician
- Electronics Technician • IT Support Technician • Mechatronics Technician

This qualification also supports those following an apprenticeship in Engineering who are looking to work and progress in the Engineering sector as an Engineering Technician or as an Engineering Operative. After this qualification, students can progress directly to technician roles, but it is likely that many will do so via higher education study. This qualification is recognised by higher education providers as contributing to meeting admission requirements for many relevant courses in a variety of areas of the engineering sector, for example:

- BEng (Hons) in Engineering • BEng (Hons) in Electronics Engineering • BEng (Hons) in Aerospace Engineering
- BSc (Hons) in Computer Science • BSc (Hons) in Mathematics.

Students should always check the entry requirements for degree programmes with specific higher education providers.