

ENGINEERING LEVEL 3

Course

BTEC International Level 3:
Subsidiary Diploma in Engineering

Exam Board

Pearson specification

Entry requirements

GCSE in D&T Grade 6, or L2 Engineering at Merit Level.

Why study a BTEC in Engineering?

This qualification is equivalent to one A level. Engineering is a diverse and exciting career that involves a depth of technical knowledge and the ability to apply it when solving problems. This qualification covers a range of content that is useful in industry and will teach you skills that are desirable to employers.

Course content

The course is separated into 5 units, a total of 360 guided learning hours spread across two years.

Unit 1: Mechanical Principles (Mandatory)

This is an externally assessed unit, the exam is 2 hours long and has a total of 80 marks. Learners will develop the skills and knowledge required to solve mechanical-based engineering problems by applying mathematical and physical science principles.

This unit will develop your mathematical and physical scientific knowledge, and understanding to enable you to solve problems set in an engineering context. You will explore and apply the algebraic and trigonometric mathematical methods required to solve engineering problems.

Unit 2: Delivery of Engineering Processes Safely as a Team (Mandatory)

This is an internally assessed assignment based unit. Learners explore how processes are undertaken by teams to create engineered products or to deliver engineering services safely. This unit is assessed in 3 parts. The first area focuses on common engineering processes and health and safety principles. The second on the development of 2D CAD drawings. The third part involves the manufacture of a batch of engineered products as a team. Students will need to complete both assignment and practical work.

Unit 3: Product Design and Manufacture in Engineering (Mandatory)

This is an internally assessed assignment unit. Learners will explore engineering product design and manufacturing processes and will complete activities that consider function, sustainability, materials, form and other factors. In this unit, you will examine what triggers changes in the design of engineering products and the typical challenges that engineers face, such as designing out safety risks. You will learn how material properties and manufacturing processes impact on the design of an engineering product.

Unit 10: Computer Aided Design (CAD)

This is a centre assessed unit. Learners develop two-dimensional (2D) detailed drawings and three-dimensional (3D) models using a computer-aided design (CAD) system. In this unit, you will use CAD software and hardware to produce 2D and 3D drawings. You will acquire the skills to produce models of products, editing and modifying these, and exploring materials and their properties. You will output a portfolio of drawings to an international standard (BS8888).

Progression after Sixth Form

Students could proceed in an engineering-related apprenticeship or employment. Successful completion of the course will also prepare students for further study such as degree level courses in Engineering.

Career opportunities

Engineers work in many sectors such as mechanical, electrical, biomedical, communications, automotive and robotics. It is a rewarding career and a much needed skill.

For more information contact Head of Department:
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