Pearson BTEC International Level 3 Qualifications in Engineering

Delivery Guide Introduction

First teaching April 2020

Pearson BTEC International Level 3 Certificate in Engineering (180 GLH)

Pearson BTEC International Level 3 Subsidiary Diploma in Engineering (360 GLH)

Pearson BTEC International Level 3 Foundation Diploma in Engineering (540 GLH)

Pearson BTEC International Level 3 Diploma in Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Electrical and Electronic Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Mechanical Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Digital Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Manufacturing Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Aeronautical Engineering (720 GLH)

Pearson BTEC International Level 3 Diploma in Mechatronic Engineering (720 GLH)

Pearson BTEC International Level 3 Extended Diploma in Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Electrical and Electronic Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Mechanical Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Digital Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Manufacturing Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Aeronautical Engineering (1080 GLH)

Pearson BTEC International Level 3 Extended Diploma in Mechatronic Engineering (1080 GLH)

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About Pearson

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All information in this specification is correct at time of publication.

Welcome to your BTEC International Level 3 qualification delivery guide

With a track record built over 40 years of learner success, Pearson BTEC qualifications are recognised internationally by governments, industry and higher education. BTEC International Level 3 qualifications allow learners to progress to the workplace – either directly or via study at a higher level. Over 100,000 BTEC learners apply to university every year. Their Level 3 BTECs, either on their own or in combination with International A Levels, are accepted by UK and international universities, and higher education institutes for entry to relevant degree programmes.

This Delivery Guide is a companion to your BTEC Level 3 International specifications, Authorised Assignment Briefs (AABs) and Sample Pearson Set Assignments. It contains ideas for teaching and learning, including practical activities, realistic scenarios, ways of involving employers in delivery, ways of managing independent learning and how to approach assessments. The aim of this guide is to show how the specification content might work in practice and to inspire you to start thinking about different ways to deliver your course.

The guidance has been put together by tutors who have been close to the development of the qualifications and so understand the challenges of finding new and engaging ways to deliver a BTEC programme in the context of the qualifications from 2020.

Guidance on what you will need to consider as you plan the delivery of the qualification(s) has been given. You will find information about the structure of your course and how you may wish to build the course for your learners, suggestions for how you could make contact with employers, and information about the other support and resources available to you.

Unit-by-unit guidance is given in the unit specifications. This guide includes suggestions on how to approach the learning aims and unit content, as well as ideas for interesting and varied activities. You will also find coverage of assessments, including useful advice about Pearson Set Assignments, as well as tips and ideas regarding how to plan for and deliver your assignments.

You will also find a list of carefully selected resources for each unit in the unit specifications. The lists include suggestions for books, websites and videos that you can either direct your learners to use or that you can use as a way to complement your delivery.

We hope you will find this guidance relevant and useful.

Enjoy your course!

What's new?

Pearson has developed the content of the new BTEC International Level 3 qualifications in collaboration with employers and representatives from higher education, and relevant professional bodies. In this way, we have ensured that content is up-to-date and that it includes the knowledge, understanding, skills and personal attributes required in the sector. The mandatory content ensures that all learners are following a coherent programme of study and that they acquire knowledge, understanding and skills that will be recognised and

valued by higher education and employers. As a result of this consultation, and on the advice of employers, higher education institutions and, most importantly, those of you who teach BTEC, some key changes have been made to the BTEC Level 3 units, which form the basis of this set of qualifications. These are described in this Delivery Guide and include the following:

- **New content and revisions to the proportion of mandatory content** – both employers and universities said they wanted a greater consistency in coverage of the subject for BTEC learners. Employers wanted to see systematic coverage of core knowledge and skills for their sector, and to reflect up-to-date industry practice.
- **A focus on employability skills** – the BTEC approach to learning, through projects, self-directed assignments, group work and work placements, has always supported the development of employability skills, e.g. self-management. In this new suite of qualifications, the balance of cognitive and skills work has been carefully calibrated to ensure that learners get a range of different opportunities across their course. The qualifications are mapped to transferable skills, and these are supported in Pearson e-books.
- **Broader assessment in internal units** – the assessment criteria for each unit are carefully structured to set a clear level of demand. Distinction criteria encourage and require depth of study, including demonstration of the application of knowledge and understanding, as well as a synoptic element for the learning aim or unit.

We are providing an enhanced support programme with exemplar and practice materials and training. Please see the *Resources and support* section of the specification for details of this support, and the link to sign up for tutor training, which continues throughout the lifetime of the qualification.

Notes:

The specification tells you what **must** be taught and what **must** be assessed. This Delivery Guide gives suggestions about **how** the content could be delivered.

The suggestions given in this Delivery Guide link with the Authorised Assignment Briefs provided by Pearson, but **they are not compulsory**. They are **designed to get you started and to help spark your imagination**.

Contents

Overview

Delivery Guides as support

In the specification, the

- 'Unit content' tells you what must be taught
- 'Assessment criteria' tell you what must be assessed
- 'Essential information for assessment decisions' explains what the assessment criteria mean.

The Delivery Guides give suggestions and ideas on how to plan and deliver the qualification. You will also find complementary Delivery Plans to help you timetable your course and ensure that your learners are well prepared for internal assessments.

Unit Delivery Guides give suggestions on how to approach the learning aims and unit content. Teaching, learning and formative assessment activities are also suggested. Links to carefully selected resources are given for each unit. The lists include suggestions for books, websites and videos, which will help you plan and deliver your course. Alternatively, you may wish to direct your learners to these resources. Use the Delivery Guides as model templates or an interpretation on which you can base your own plan. Every Delivery Guide presents each unit as an exemplar, highlighting engineering links to motivate tutors and learners.

Qualification at a glance

Title	Size and structure	Summary purpose
Pearson BTEC International Level 3 Certificate in Engineering	180 GLH Equivalent in size to 0.5 of an International A Level. Three units, of which one is mandatory, one is mandatory/optional and assessed through a Pearson Set Assignment, and one from given optional unit list. Mandatory content: 66.6%.	An introduction to a vocational sector through applied learning. This qualification is intended for post-16 learners who want to continue their education through applied learning and who aim to progress to higher education and/or employment. It aims to give a coherent introduction to study of the engineering sector.
Pearson BTEC International Level 3 Subsidiary Diploma in Engineering	360 GLH Equivalent in size to one International A Level. Five units, of which two are mandatory, one is mandatory/optional and assessed through a Pearson Set Assignment, and two from given optional unit list. Mandatory content: 66.6%.	This qualification gives 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 Level 3 qualifications.

Title	Size and structure	Summary purpose
Pearson BTEC International Level 3 Foundation Diploma in Engineering	540 GLH Equivalent in size to 1.5 International A Levels. 8 units, of which four are mandatory – three of these are assessed through Pearson Set Assignments – and four from given optional unit list. Mandatory content: 50%.	Designed as a one-year, full-time course, covering the fundamentals in engineering, which supports progression to a work-based learning qualification in engineering sectors, to a further year of study at Level 3. It supports progression to higher education if taken as part of a programme of study that includes other BTEC International Level 3 qualifications or International A Levels.
Pearson BTEC International Level 3 Diploma in Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Digital Engineering, Manufacturing Engineering, Aeronautical Engineering, Mechatronic Engineering	720 GLH Equivalent in size to two International A Levels. 11 units, of which four are mandatory, three are assessed through Pearson Set Assignments, and seven from the given optional unit list. Mandatory content: 42%.	For learners who want to prepare for roles in engineering, for example, engineering technician or operative. There are eight specialisms available to choose from. Each qualification represents a distinct discipline of engineering with specialised learning to facilitate progression into focused job roles/further learning. These specialisms also have access to certain common units shared between qualifications, such as 'Computer Aided Design in Engineering', which are written to allow contextualisation of learning and assessment by outcome in specific engineering disciplines. Learners gain relevant skills and knowledge from studying a range of content focused on engineering disciplines, for example electrical machines or maintenance of mechanical systems.

Title	Size and structure	Summary purpose
		Designed to be the substantive part of a 16–19 study programme for learners who want a strong core of sector study and a focus on engineering.
Pearson BTEC International Level 3 in Extended Diploma in Electrical and Electronic Engineering, Mechanical Engineering, Mechatronic Engineering	1080 GLH Equivalent in size to three International A Levels. 16 units, of which six are mandatory and four are Pearson Set Assignments. Mandatory content: 44%.	A two-year, full-time course for learners who want to progress to employment in a range of engineering roles. Progress could be either directly to employment in Level 3 roles, or via higher-education engineering courses.
Pearson BTEC International Level 3 in Extended Diplomas in Engineering, Digital Engineering, Manufacturing Engineering, Aeronautical Engineering	1080 GLH Equivalent in size to three International A Levels. 16 units, of which seven are mandatory and four are Pearson Set Assignments. Mandatory content: 50%.	

Structure and purpose

The tables below show the structure of the qualifications in the Engineering suite of qualifications. With a clear understanding of the units and careful selection, centres can tailor the qualification to suit the needs of their learners and the resources of the centre. Ensure that you use the full structure found in *Section 2* of the specification when planning your course. It is important that you select the units carefully to meet all the rules of combination for the targeted qualification.

Structures of the qualifications at a glance

This table shows all the units and the qualifications to which they contribute. The full structure for this Pearson BTEC International Level 3 in Engineering is show in *Section 2 Structure.* **You must refer to the full structure to select units and plan your programme.**

Key

(shaded)	**Pearson Set Assignment**	**M**	**Mandatory units**	**O**	**Optional units**

E	**Engineering**	**EE**	**Electrical/Electronic**	**ME**	**Mechanical**	**D**	**Digital**
MA	**Manufacturing**	**AE**	**Aeronautical**	**MT**	**Mechatronic**		

Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Subsidiary Diploma (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)							Extended Diploma (1080 GLH)						
					E	**EE**	**ME**	**D**	**MA**	**AE**	**MT**	**E**	**EE**	**ME**	**D**	**MA**	**AE**	**MT**
1 Mechanical Principles	**60**	**O**	**O**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**
2 Delivery of Engineering Processes Safely as a Team	**60**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**	**M**

Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Subsidiary Diploma (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)							Extended Diploma (1080 GLH)						
3 Product Design and Manufacture in Engineering	120		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4 Applied Commercial and Quality Principles in Engineering	60		O	O	M							M						
5 A Specialist Engineering Project	60		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
6 Microcontroller Systems	120			O	O	O	O	O	O	O	O	M	M	M	M	M	M	M
7 Calculus to Solve Engineering Problems	60			O	O	O	O	O	O	O	O	M	M	M	M	M	M	M
8 Further Engineering Mathematics	60				O	O	O	O	O	O	O	O	O	O	O	O	O	O
9 Work Experience in the Engineering Sector	60		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
10 Computer Aided Design in Engineering	60	O	O	O	O		O	O	O	O	O	O		O	O	O	O	O
11 Engineering Maintenance and Condition Monitoring Techniques	60		O	O	O		O	O	O	O	O	O		O	O	O	O	O

Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Subsidiary Diploma (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)							Extended Diploma (1080 GLH)						
					E	EE	ME	D	MA	AE	MT	E	EE	ME	D	MA	AE	MT
12 Pneumatic and Hydraulic Systems	60		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
13 Welding Technology	60	O		O	O		O		O	O	O	O		O		O	O	O
14 Electrical Installation of Hardware and Cables	60				O	O		O			O	O	O		O	O		O
15 Electrical Machines	60			O	O	O	O	O		O	O	O	O	O	O		O	O
16 Three-Phase Electrical Systems	60				O	O		O	O	O	O	O	O		O	O	O	O
17 Power and Energy Electronics	60				O	O		O			O	O	O					O
18 Electrical Power Distribution and Transmission	60				O	O		O			O	O	O		O			O
19 Electronic Devices and Circuits	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
20 Analogue Electronic Circuits	60				O	O	O	O			O	O	O	O	O			O
21 Electronic Measurement and Testing of Circuits	60			O	O	O	O	O	O		O	O	O	O	O	O	O	O
22 Electronic Printed Circuit Board Design and Manufacture	60			O	O	O		O	O		O	O	O		O	O		O

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					E	EE	ME	D	MA	AE	MT	E	EE	ME	D	MA	AE	MT
23 Digital and Analogue Electronic Systems	60				O	O					O	O	O					O
24 Maintenance of Mechanical Systems	60			O	O	O	O		O		O	O	O	O		O		O
25 Mechanical Behaviour of Metallic Materials	60	O	O	O	O	O	O		O	O	O	O	O	O		O	O	O
26 Mechanical Behaviour Non-metallic Materials	60				O		O		O	O	O	O	O	O		O	O	O
27 Static Mechanical Principles in Practice	60			O	O	O	O		O		O	O	O	O		O		O
28 Dynamic Mechanical Principles in Practice	60				O		O		O	O	O	O	O	O		O	O	O
29 Principles and Applications of Fluid Mechanics	60				O		O		O	O	O	O		O		O	O	O
30 Mechanical Measurement and Inspection Technology	60		O	O	O	O	O		O		O	O	O	O		O		O
31 Thermodynamic Principles and Practice	60				O		O			O	O	O		O			O	O

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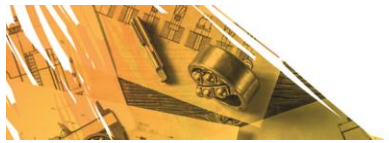
					E	EE	ME	D	MA	AE	MT	E	EE	ME	D	MA	AE	MT
32 Computer System Principles and Practice	60			O	O			M			M	O			M			M
33 Computer Systems Security	60				O	O	O	O	O		O	O	O	O	O	O		O
34 Computer Systems Support and Performance	60				O	O	O	O	O		O	O	O	O	O	O		O
35 Computer Programming	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
36 Programmable Logic Controllers	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
37 Computer Networks	60				O	O		O			O	O	O		O			O
38 Website Production to Control Devices	60				O	O		O			O	O	O		O			O
39 Modern Manufacturing Systems	60			O	O				M		O	O				M		O
40 Computer Aided Manufacturing and Planning	60				O			O	O		O	O		O	O	O		O
41 Manufacturing Secondary Machining Processes	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O



Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Subsidiary Diploma (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)							Extended Diploma (1080 GLH)						
					E	EE	ME	D	MA	AE	MT	E	EE	ME	D	MA	AE	MT
42 Manufacturing Primary Forming Processes	60				O		O		O		O	O		O		O		O
43 Manufacturing Computer Numerical Control Machining Processes	60		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
44 Fabrication Manufacturing Processes	60	O	O	O	O	O	O		O		O	O	O	O		O	O	O
45 Additive Manufacturing Processes	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
46 Manufacturing Joining, Finishing and Assembly Processes	60				O				O		O	O				O		O
47 Composites Manufacture and Repair Processes	60				O				O	O	O	O				O	O	O
48 Aircraft Flight Principles and Practice	60			O	O					M	O	O					M	O
49 Aircraft Workshop Methods and Practice	60									O							O	

Unit (number and title)	Unit size (GLH)	Certificate (180 GLH)	Subsidiary Diploma (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)							Extended Diploma (1080 GLH)						
					E	EE	ME	D	MA	AE	MT	E	EE	ME	D	MA	AE	MT
50 Aircraft Gas Turbine Engines	60									O							O	
51 Aircraft Propulsion Systems	60									O							O	
52 Airframe Construction and Repair	60									O							O	
53 Airframe Mechanical Systems	60									O							O	
54 Aircraft Electrical and Instrument Systems	60									O							O	
55 Aircraft First Line Maintenance Operations	60			O	O		O			O		O		O			O	
56 Industrial Robotics	60	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
57 Electrical and Electronic Principles	60	O	O	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
58 Entrepreneurship and Intrapreneurship in Practice	60		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

In order to maximise the quality of learning, the structure of the qualifications has been developed with significant input from all sectors that require learners to have underpinning skills in engineering, including a breadth of employers, higher education institutions and delivery centres.

Learners on the smaller size qualifications who find they have a continuing interest in engineering can move on to a larger qualification in the suite. This flexibility is facilitated through a considered number of mandatory and assessed units, which avoids unnecessary repetition of assessment of units.

The Diploma, Extended Diploma, Foundation Diploma and Subsidiary Diploma focus on enabling learners to move into industry, ensuring that they can manage a client brief, realise intentions and have an awareness of professional practice through their understanding of mandatory taught and assessed content.

All qualifications require meaningful employer involvement that is relevant to the industry, sector or occupation. This employer involvement can include:

work experience and placements

projects set by employers

co-delivery of units with employers

industry guests who contribute to learner practice.

We firmly believe in the relevance of learning through employer engagement and the qualifications provide ideas on how this can be achieved. Most of the units highlight where employer involvement would benefit the learning and make useful suggestions for how to initiate this participation.

Set assignment units

Some mandatory units in the qualifications are assessed using a set assignment.

Each assessment is set by Pearson and may need to be taken under controlled conditions before it is marked by teachers.

Set assignment units are subject to external standards verification processes common to all BTEC units. By setting an assignment for some units, we can ensure that all learners take the same assessment for a specific unit. Learners are permitted to resit set assignment units during their programme, as detailed in Section 6 of the specification.

Set assignments are available from September each year and are valid for one year only.

Overview of the Engineering qualifications suite

As shown in the 'Structures of the qualifications at a glance' tables, the Engineering BTEC qualifications suite offers a combination of mandatory and optional units with internal and Pearson set assessments, which will drive the quality of learning. It will also help learners take increased responsibility for their own development.

The demands within industry mean learners need to be able to manage deadlines and communicate their ideas in different ways. This assessment methodology closely matches experiences learners will have in employment and thus increases their chances of successful progression.

The units provide valuable ways for learners to develop highly transferable skills and to be assessed in a synoptic way. All of the units contain opportunities for stakeholder or employer engagement to stimulate learning experiences.

The combination of mandatory and optional unit content means that the qualification in Engineering is tailored to suit a broad mix of engineering needs. These qualifications cover specialist engineering content, for example on manufacturing processes or computer programming.

Certificate

The Certificate gives a basic introduction to engineering for learners to include alongside their wider study programme. Learners are given the opportunity to engage with and explore engineering processes and teamwork. It is suitable for learners intending further study at higher education, including progression onto one of the more specialist engineering programmes

Subsidiary Diploma

This qualification is designed to support progression to apprenticeship or employment when taken as part of a programme of study that includes other appropriate qualifications. The Subsidiary Diploma has five units, of which two are mandatory and one is mandatory/optional.

E.g. *Unit 1: Mechanical Principles* or *Unit 57: Electrical and Electronic Principles* are the mandatory/optional units available. Learners could choose to use one or the other of these units to give a particular engineering 'flavour' to the course, allowing a further two 'specialist' option units to be included. Alternatively, you could include both to retain a 'general engineering' feel, but that would leave only one optional unit available.

Foundation Diploma

This qualification supports entry to employment in the sector as well as progression to a further year of study at level 3. It would also support progression to higher education if taken as part of a programme of study that included other appropriate qualifications. The qualification consists of four mandatory units, three of which have a Pearson Set Assignment, and four optional units.

E.g. You could use the four mandatory units as a core for all learners, which would then allow the flexibility of a choice of optional units to provide pathways to meet different local needs.

Diploma

This qualification is designed to be the substantive part of a 16–19 study programme for learners who want a strong core of engineering study. This programme may include other qualifications to support progression either directly to employment in the engineering sector or to higher education courses in engineering. Learners are able to focus on specialisms in electrical/electronic engineering, mechanical engineering, manufacturing engineering, aeronautical engineering, digital engineering or a mechatronic engineering pathway. The additional qualification(s) studied allow learners to either give breadth to their study programme by choosing a contrasting subject, or to give it more focus by choosing a complementary subject. This qualification can also be used to progress to employment in this sector.

Extended Diploma

This qualification is designed to be the main focus of learning in a typical two-year, 16–19 study programme.

This size qualification is particularly appropriate for those with an interest in progressing directly to a career in a specialist area of engineering or in entering the sector following a course in higher education. The same pathways are available as for the Diploma-sized qualification. Note that the number of mandatory units is six or seven, depending on the specialist route taken. Careful selection of the units makes the Extended Diploma the most flexible in terms of catering for a range of specialist pathways that can be delivered efficiently.

Making the right choice for your learners

The qualifications are meant to be inclusive and support individuals in their progression. The prior achievement and aspirations of learners is key to advising the most appropriate study programme.

For learners who wish to progress directly to higher education, the qualifications ensure they will have the skills to cope with the academic and independent learning required. In recognition of some of the highly specialised areas within the engineering industry, the qualifications provide opportunities for learners to gain vocational experience in parallel with other specialist qualifications. These qualifications support progression into industry at entry or apprenticeship levels with the understanding required to progress in their careers.

Below are some examples of learners' potential progression routes:

16-year-old student choice		
Progression intention	**Prior achievement**	**Potential BTEC International route**
Engineering subject in HE in Electrical Engineering	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Diploma in Electrical and Electronic Engineering alongside A Levels, e.g. in Maths, Physics
Engineering subject in HE, but uncertain of specialism	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Subsidiary Diploma in Engineering alongside A Levels, e.g. in Maths, Physics, Computing
Higher Apprenticeship in Engineering but uncertain of specialism	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	Year 1: BTEC Foundation Diploma in Engineering Year 2: Start Apprenticeship or continue into BTEC Diploma in a chosen specialism
Higher Apprenticeship in Aeronautical Engineering	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Extended Diploma in Aeronautical Engineering
Non-Engineering subject in HE	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Subsidiary Diploma in Engineering alongside A Levels, e.g. in Business, Economics, Maths, Physics

Directly to employment in a manufacturing environment	Five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Diploma in Manufacturing Engineering alongside other BTEC or A Level qualifications, e.g. in Product Design, Business, or standalone BTEC Extended Diploma in Manufacturing Engineering

*Routes to higher education (HE) or employment are dependent on prior experience.

19+ learner choice*		
Progression	**Prior achievement**	**Potential BTEC International route**
Employment in an engineering environment	No experience in engineering, but with five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Extended Diploma in an appropriate specialism
Engineering subject in HE	Some experience in engineering with five GCSEs/IGCSEs at grade 9–4, including Maths and English	BTEC Foundation Diploma in Engineering alongside other A Level qualifications, e.g. in Maths, Physics

Making contact with employers

Employer contact is one of the most cherished experiences BTEC International learners can have, as it ensures realistic and valuable learning.

Partnerships between companies, freelance practitioners and centres can often develop a relationship that is beneficial to all parties. Here are some ideas that may support centres expanding their employer engagement.

Employability skills

Employers look not only for technical skills, but also employability skills. These include:

- **self-management**: readiness to accept responsibility, flexibility, time management, readiness to improve own performance
- **team working**: respecting others, cooperating, negotiating/persuading, contributing to discussions
- **business and customer awareness**: basic understanding of the key drivers for business success and the need to provide customer satisfaction
- **problem-solving**: ability to analyse facts and circumstances and applying creative thinking to develop appropriate solutions
- **communication and literacy**: application of literacy, ability to produce clear, structured written work, and oral literacy (including listening and questioning)
- **application of numeracy**: manipulation of numbers, general awareness of mathematics and its application in practical contexts
- **application of information technology**: basic IT skills including familiarity with word processing, spreadsheets, file management and use of internet search engines.

Support and resources

Support for setting up your course and preparing to teach

Specification

The specification (for teaching from April 2020) gives you details of the administration of the qualifications and information on the units for the qualifications.

Delivery Guide

These free guides give you important advice on how to choose the right course for your learners and how to ensure you are fully prepared to deliver the course. They explain the key features of BTEC International Level 3 qualifications, for example employer involvement and employability skills. They also include guidance on assessment and quality assurance. The guides tell you where you can find further support and give detailed unit-by-unit delivery guidance. They include teaching tips and ideas, assessment preparation and suggestions for further resources.

Schemes of work

Free sample Schemes of Work are given for each mandatory unit. These are available in Word™ format for ease of customisation.

myBTEC

myBTEC is an online toolkit that lets you plan and manage your BTEC provision from one place. It supports the delivery, assessment and quality assurance of BTECs in centres and supports teachers with the following activities:

- checking that a programme is using a valid combination of units
- creating and verifying assignment briefs (including access to a bank of Authorised Assignment Briefs that can be customised)
- creating assessment plans and recording assessment decisions
- tracking the progress of every learner throughout their programme.

To find out more about myBTEC, visit the myBTEC page on the support services section of our website.

Support for teaching and learning

Pearson Learning Services provides a range of engaging resources to support BTEC International Level 3 qualifications. These may include:

- textbooks in e-book and print formats
- revision guides and revision workbooks in e-book and print formats
- teaching and assessment packs, including e-learning materials via the Active Learn Digital Service.

Teaching and learning resources are also available from a number of other publishers. Details of Pearson's own resources and of all endorsed resources can be found on our website.

Support for assessment

Sample assessment materials for internally assessed units

For internal units assessed with a Pearson Set Assignment, we will provide a sample assignment as an example of the form of assessment for the unit.

We provide a service in the form of Authorised Assignment Briefs and sample Pearson Set Assignments, which are approved by Pearson Standards Verifiers. They are available via our website and on myBTEC.

Pearson English

For internal units assessed with a Pearson Set Assignment, we will provide a sample assignment as an example of the form of assessment for the unit.

We provide a service in the form of Authorised Assignment Briefs and sample Pearson Set Assignments, which are approved by Pearson Standards Verifiers. They are available via our website and on myBTEC.

Pearson is not responsible for the content of any external internet sites. It is essential for tutors to preview each website before using it in class so as to ensure that the URL is still accurate, relevant and appropriate. We suggest that tutors bookmark useful websites and consider enabling students to access them through the school/college intranet.