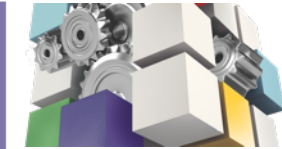




BTEC Nationals in Engineering 2016–2019

Welcome to your guide to the BTEC Level 3 Nationals RQF Engineering qualifications.

- **Slides 3-4** **Find out what's great** about the new RQF Nationals in Engineering and view our whole offer at Level 3
- **Slide 5** **Understand what's different** to the QCF qualifications
- **Slides 6-8** **Explore the structure** of the qualifications in detail
- **Slides 10-19** **See the range of support** materials and advice available to help you plan and deliver your course
- **Slides 20** **Know what to do next** if you need help or advice.



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BTEC Nationals in Engineering 2016

The Level 3 BTEC National in Engineering is a great choice for students looking for a practical and creative qualification. The courses aim to provide students with the relevant skills and knowledge that employers value, as well as the confidence to progress into a fulfilling, exciting career.

Qualifications available:



Engineering

“BTECs allow tutors to tailor assignments and units to real-life industry concepts.”

Jo Hall, Deputy Head of Engineering at
Cronon College

Want to talk to someone about delivering these qualifications?

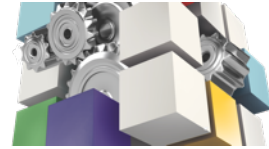
You can contact us through our [support portal](#) or by calling 0344 463 2824



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BTEC Nationals in Engineering – full suite of RQF qualifications

BTEC Level 3 Nationals (RQF)	Engineering	Electrical and Electronic Engineering	Mechanical Engineering	Manufacturing Engineering	Aeronautical Engineering
Funded	Certificate (180 GLH) Ext Certificate (360 GLH) Foundation Dip (540 GLH) Diploma (720GLH) Extended Dip (1080 GLH)	Diploma (720GLH) Extended Dip (1080GLH)	Diploma (720GLH) Extended Dip (1080GLH)	Diploma (720GLH) Extended Dip (1080GLH)	Diploma (720GLH) Extended Dip (1080GLH)
Types of assessment	Internal External exam and task	Internal External exam and task	Internal External exam and task	Internal External exam and task	Internal External exam and task
Mandatory employer engagement	Yes	Yes	Yes	Yes	Yes
UCAS points	Yes	Yes	Yes	Yes	Yes
DfE Performance Tables	Yes	Yes	Yes	Yes	Yes



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BTEC Nationals in Engineering – QCF v RQF

We've highlighted below the main differences between the QCF and RQF qualifications:

- **Units come in a range of sizes** – 60 and 120 GLH which means that their weighting is different when calculating the final grade.
- **There is compensation across the qualification**, with grades to reflect all achievement.
- **Externally assessed units** with a Near Pass grade.
- **Assessment criteria** in internally assessed units are set out differently.
- **Synoptic Assessment** requires learners to demonstrate that they can identify and use effectively, in an integrated way, an appropriate selection of skills, techniques, concepts, theories and knowledge from across the whole sector as relevant to a key task.



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QUALIFICATION STRUCTURE

Certificate (180 GLH)	Extended Certificate (360 GLH)	Foundation Diploma (540 GLH)	Diploma (720 GLH)	Extended Diploma (1080 GLH)
Equivalent to 0.5 A-Levels	Equivalent to 1 A-Level	Equivalent to 1.5 A-Levels	Equivalent to 2 A-Levels	Equivalent to 3 A-Levels
TOTAL: 2 UNITS	TOTAL: 4 UNITS	TOTAL: 7 UNITS	TOTAL: 10 UNITS	TOTAL: 15 UNITS
2 MANDATORY UNITS	3 MANDATORY UNITS	4 MANDATORY UNITS	5 MANDATORY UNITS	7 MANDATORY UNITS
1 Engineering Principles (120 GLH)	1 Engineering Principles (120 GLH)	1 Engineering Principles (120 GLH)	1 Engineering Principles (120 GLH)	1 Engineering Principles (120 GLH)
2 Delivery of Engineering Processes Safely as a Team (60 GLH)	2 Delivery of Engineering Processes Safely as a Team (60 GLH)	2 Delivery of Engineering Processes Safely as a Team (60 GLH)	2 Delivery of Engineering Processes Safely as a Team (60 GLH)	2 Delivery of Engineering Processes Safely as a Team (60 GLH)
	3 Engineering Product Design and Manufacture (120 GLH)	3 Engineering Product Design and Manufacture (120 GLH)	3 Engineering Product Design and Manufacture (120 GLH)	3 Engineering Product Design and Manufacture (120 GLH)
		4 Applied Commercial and Quality Principles in Engineering (60 GLH)	4 Applied Commercial and Quality Principles in Engineering (60 GLH)	4 Applied Commercial and Quality Principles in Engineering (60 GLH)
			5 A Specialist Engineering Project (60 GLH)	5 A Specialist Engineering Project (60 GLH)
				6 Microcontroller Systems for Engineering (120 GLH)
				7 Calculus to Solve Engineering Problems (60 GLH)
0 OPTIONAL UNITS	1 OPTIONAL UNIT	3 OPTIONAL UNITS	5 OPTIONAL UNITS	8 OPTIONAL UNITS

Assignment – Set and marked internally

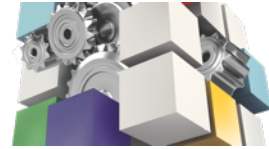
Task – Set and marked by Pearson

Written exam – Set and marked by Pearson



BTEC Specialists in Advanced Manufacturing Engineering

BTEC Level 3 Specialist (RQF)	Advanced Manufacturing Engineering
Funded	Foundation Award (180 GLH) Award (360 GLH) Certificate (540 GLH) Diploma (720GLH) Extended Dip (1080 GLH)
Types of assessment	Internal
Mandatory employer engagement	No
UCAS points	Yes
DfE Performance Tables	No
Linked to Engineering Apprenticeship Standards	Yes



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QUALIFICATION STRUCTURE

Foundation Award (180 GLH)	Award (360 GLH)	Certificate (540 GLH)	Diploma (720 GLH)	Extended Diploma (1080 GLH)
Equivalent to 0.5 A-Levels	Equivalent to 1 A-Level	Equivalent to 1.5 A-Levels	Equivalent to 2 A-Levels	Equivalent to 3 A-Levels
TOTAL: 3 UNITS	TOTAL: 5 UNITS	TOTAL: 8 UNITS	TOTAL: 11 UNITS	TOTAL: 17 UNITS
1 MANDATORY UNITS	3 MANDATORY UNITS	3 MANDATORY UNITS	3 MANDATORY UNITS	3 MANDATORY UNITS
1 Health and Safety in the Engineering Workplace (60 GLH)	1 Health and Safety in the Engineering Workplace (60 GLH)	1 Health and Safety in the Engineering Workplace (60 GLH)	1 Health and Safety in the Engineering Workplace (60 GLH)	1 Health and Safety in the Engineering Workplace (60 GLH)
	2 Communications for Engineering Technicians (60 GLH)	2 Communications for Engineering Technicians (60 GLH)	2 Communications for Engineering Technicians (60 GLH)	2 Communications for Engineering Technicians (60 GLH)
	3 Mathematics for Engineering Technicians (60 GLH)	3 Mathematics for Engineering Technicians (60 GLH)	3 Mathematics for Engineering Technicians (60 GLH)	3 Mathematics for Engineering Technicians (60 GLH)
2 OPTIONAL UNITS	2 OPTIONAL UNITS	5 OPTIONAL UNITS	8 OPTIONAL UNITS	15 OPTIONAL UNITS

Assignment – Set and marked internally

Planning your delivery

This section highlights the range of support materials and advice available to help you plan your delivery of BTEC Level 3 Nationals qualifications including:

- **Slides 10-13** **External assessment**
- **Slides 14-16** **Internal assessment**
- **Slide 17** **Grading**



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Planning your delivery – EXTERNAL ASSESSMENT

KEY INFORMATION

Availability	Twice a year
Resit opportunity	Learners can resit BTEC Nationals twice
Results and Post result services	https://qualifications.pearson.com/en/support/support-for-you/exam-officers-administrators/results.html
Resources	Sample Assessment Material Additional Sample Assessment Material Past Papers Examiner reports Mark schemes Sample Marked Learner work
Compensation	Near Pass (N grade) meaning learners can pass the qualification without passing the external assessment as long as they achieve the N grade and meet all other eligibility requirements
Types of external assessments	Task Written Exam



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Planning your delivery – EXTERNAL ASSESSMENT

SUPPORT – Course materials

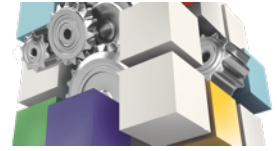
We've a wide range of course materials available to help with all aspects of external assessment. You'll find these on the **Course Materials section** on your qualification page.

Detailed specifications – to help you fully understand the qualifications

Examiner reports – to help you prepare for future assessments

Administrative support guides – summarising all the support materials and key information available – you'll find these under the external assessment tab.

Sample marked learner work – so you have an example of the standard



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Planning your delivery – EXTERNAL ASSESSMENT

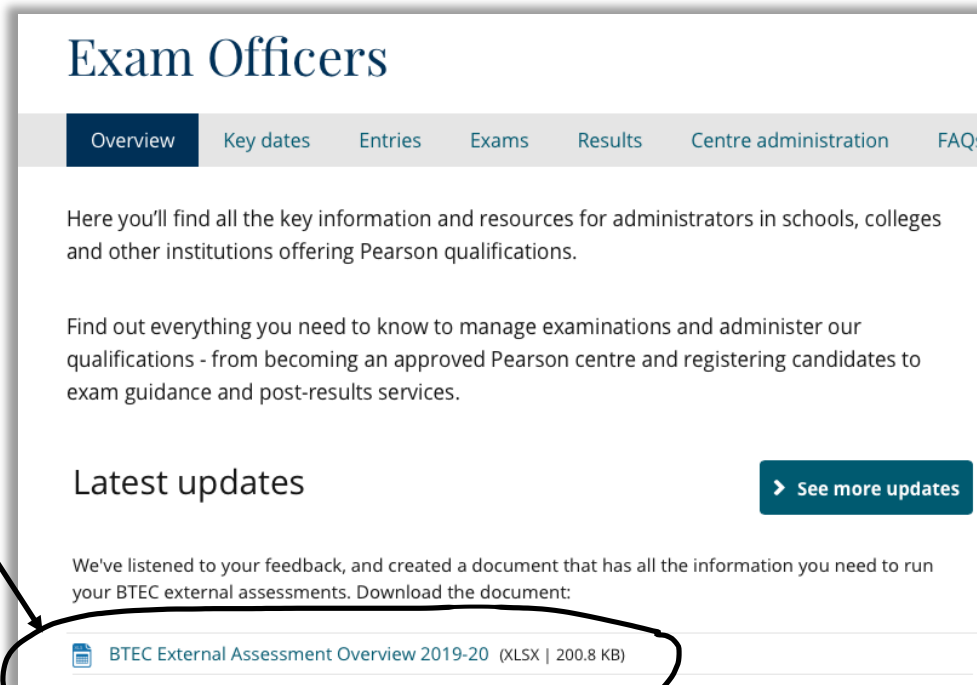
SUPPORT – Assessment administration support

We've created a document that has all the information you need to run your BTEC external assessments. You'll find this downloadable document on the [Exams Officers page](#).

BTEC External Assessment Overview

A one stop administration guidance document containing everything you and your exams officers will need to manage and run external assessment within BTEC.

(Please note, this is a live document and content may change throughout the year.)



Exam Officers

Overview Key dates Entries Exams Results Centre administration FAQs

Here you'll find all the key information and resources for administrators in schools, colleges and other institutions offering Pearson qualifications.

Find out everything you need to know to manage examinations and administer our qualifications - from becoming an approved Pearson centre and registering candidates to exam guidance and post-results services.

Latest updates [See more updates](#)

We've listened to your feedback, and created a document that has all the information you need to run your BTEC external assessments. Download the document:

[BTEC External Assessment Overview 2019-20 \(XLSX | 200.8 KB\)](#)



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Planning your delivery – EXTERNAL ASSESSMENT

SUPPORT – Support services

In addition to course materials, you also have a range of free BTEC Support Services designed specifically to save you time and help your learners prepare for external assessment.



Our free online BTEC planning tool developed to save you time. [Find out more](#)



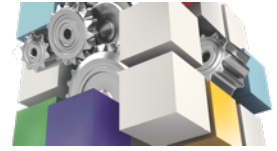
Create mock exams from our bank of past paper questions. [Find out more](#)



Our free online results analysis tool. [Find out more](#)

Past papers

So learners can get a feel for what to expect. [Find out more.](#)



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Planning your delivery – INTERNAL ASSESSMENT

EXAMPLE UNIT

Learning aims to help clarify assessment criteria.

Pass	Merit	Distinction
Learning aim A: Explore the features of different businesses and what makes them successful		AB.D1 Evaluate the reasons for the success of two contrasting businesses, reflecting on evidence gathered.
A.P1 Explain the features of two contrasting businesses.	A.M1 Assess the relationship and communication with stakeholders of two contrasting businesses using independent research.	
A.P2 Explain how two contrasting businesses are influenced by stakeholders.		
Learning aim B: Investigate how businesses are organised		
B.P3 Explore the organisation structures, aims and objectives of two contrasting businesses.	B.M2 Analyse how the structures of two contrasting businesses allow each to achieve its aims and objectives.	

Further information provides key information about preparing for and delivering a unit

Further information for teachers and assessors

Resource requirements

There are no specific resource requirements for this unit but centres must give learners access to information on a range of businesses, including local, national and international.

Essential information for assessment decisions

It is expected that learners in a cohort will individually select and research their choice of businesses.

Throughout the unit, learners will show individuality of thought, independent collection, collation and judgement of evidence.

The businesses selected by the learner in Learning aims A and B should be contrasting in terms of their features, e.g. ownership and liability, purpose, sector, scope and/or size.

It is recommended the learner's own centre is not used for this unit.

Learning aims A and B

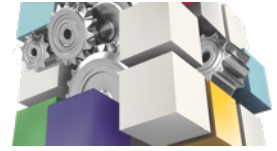
For distinction standard, learners will produce relevant evidence of how differing features and the complex relationship and communications with its internal and external stakeholders make businesses successful to support the evaluation given.

For merit standard, learners will present a careful consideration of each of the businesses relationship and communication with its stakeholders, and arrive at conclusions about how well each business communication impacts on its relationship with stakeholders. Learners will give a breakdown of the organisational structure including the different functional areas within the structure, what each does and how the areas interrelate or work together to contribute to each business's aims and objectives.

For pass standard, learners will carry out research that allows them to clearly link familiar and obvious features of the businesses and the stakeholder influence to success factors.

Appendix 2 Glossary of terms used for internally-assessed units

Glossary highlights the key terms used.



Planning your delivery – INTERNAL ASSESSMENT

ASSIGNMENT BRIEFS

To give you maximum flexibility and support when planning your course, you have **three options available** when preparing your assignment briefs:

1. Use the **Pearson Authorised Assignment Briefs** as published – you will find these under the Internal Assessment tab on the Course Materials section of the qualification specification page.
2. Adapt a **Pearson Authorised Assignment Brief** to suit the needs of your learners.
3. **Create your own Assignment Briefs** if you think this will better meet the needs of your learners, or where an Authorised Assignment Brief is not available. To help check you have everything covered you can use our **Assignment Checking Service**.

(Remember, you must still internally verify assignments even if you've used them 'off the shelf'.)



Planning your delivery – INTERNAL ASSESSMENT

SUPPORT – Course materials

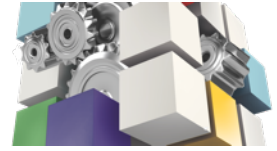
We've a wide range of course materials available to help with all aspects of internal assessment. You'll find these on the **Course Materials section** on your qualification specification page.

Detailed specifications – to help you fully understand the qualifications

Assignment Checking Service – to check you have everything covered

Ask the Expert – contact our team of subject specialists who can help with any questions you may have.

Sample marked learner work – so you have an example of the standard



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Planning your delivery – GRADING

Grade calculations

Qualification

Certificate		Extended Certificate		Foundation Diploma		Diploma		Extended Diploma	
180 GLH		360 GLH		510 GLH		720 GLH		1080 GLH	
Grade	Points threshold	Grade	Points threshold	Grade	Points threshold	Grade	Points threshold	Grade	Points threshold
U	0	U	0	U	0	U	0	U	0
Pass	18	P	36	P	51	PP	72	PPP	108
						MP	88	MPP	124
								MMP	140
Merit	26	M	52	M	73	MM	104	MMM	156
						DM	124	DMM	176
								DDM	196
Distinction	42	D	74	D	104	DD	144	DDD	216
						D*D	162	D*DD	234
								D*D*D	252
Distinction*	48	D*	90	D*	130	D*D*	180	D*D*D*	270

External Units

	Unit size	
	60 GLH	90 GLH
U	0	0
Pass	6	9
Merit	10	15
Distinction	16	24

Internal Units

	Unit size	
	90 GLH	120 GLH
U	0	0
Near Pass	6	8
Pass	9	12
Merit	15	20
Distinction	24	32



BTEC Nationals in Engineering – NEXT STEPS

Published resources



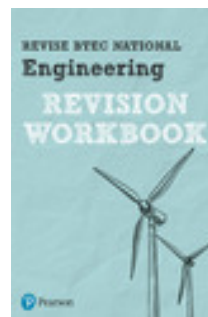
Contents Listing

Available for:

- BTEC National in Engineering Units 1, 3 and 6.

Contents Listing

Unit 1: Engineering Principles
Unit 2: Delivery of Engineering Processes Safely as a Team
Unit 3: Engineering Product Design and Manufacture
Unit 4: Applied Commercial and Quality Principles in Engineering
Unit 5: A Specialist Engineering Project
Unit 6: Microcontroller Systems for Engineers
Unit 7: Calculus to Solve Engineering Problems
Unit 8: Further Engineering Mathematics
Unit 10: Computer Aided Design in Engineering
Unit 19: Electronic Devices and Circuits
Unit 25: Mechanical Behaviour of Metallic Materials



Contents Listing

Available for:

- BTEC National in Engineering Units 1, 3 and 6.

[> > > Find out more](#)



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BTEC Nationals in Engineering – NEXT STEPS

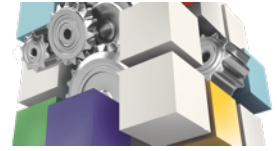
TRAINING EVENTS

In addition to course materials and support services, we also regularly run training events to help you successfully deliver your course.

Whether you're new to BTEC, need a refresher or want to know more about the BTEC Nationals RQF qualifications in particular, we've a range of events to help.

Visit our **training page** for the latest events and check back regularly as we are constantly updating our calendar of events.

> Find out more about training



BTEC Nationals in Engineering – NEXT STEPS

Getting in touch

If you need help or advice about delivering BTEC Nationals Engineering qualifications your Subject Advisor, Evren Alibaba will be happy to help.



UK: 0344 463 2824
Intl: + 44 (0)344 463 2824

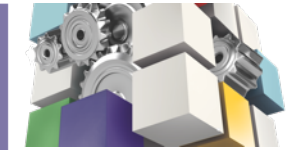


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