

Pearson BTEC Level 3 National Extended Certificate in Agriculture



Specification

First teaching from January 2019

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Issue 6

Pearson BTEC Level 3 National Extended Certificate in Agriculture Specification

First teaching September 2019
Issue 6

About Pearson

We are the world's leading learning company operating in countries all around the world. We provide content, assessment and digital services to learners, educational institutions, employers, governments and other partners globally. We are committed to helping equip learners with the skills they need to enhance their employability prospects and to succeed in the changing world of work. We believe that wherever learning flourishes so do people.

This specification is Issue 6. We will inform centres of any changes to this issue. The latest issue can be found on our website.

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

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Welcome

With a track record built over 30 years of learner success, BTEC Nationals are widely recognised by industry and higher education as the signature vocational qualification at Level 3. They provide progression to the workplace either directly or via study at a higher level. Proof comes from YouGov research, which shows that 62 per cent of large companies have recruited employees with BTEC qualifications. What's more, well over 100,000 BTEC students apply to UK universities every year and their BTEC Nationals are accepted by over 150 UK universities and higher education institutes for relevant degree programmes either on their own or in combination with A Levels.

Why are BTECs so successful?

BTECs embody a fundamentally learner-centred approach to the curriculum, with a flexible, unit-based structure and knowledge applied in project-based assessments. They focus on the holistic development of the practical, interpersonal and thinking skills required to be able to succeed in employment and higher education.

When creating the BTEC Nationals in this suite, we worked with many employers, higher education providers, colleges and schools to ensure that their needs are met. Employers are looking for recruits with a thorough grounding in the latest industry requirements and work-ready skills such as teamwork. Higher education needs students who have experience of research, extended writing and meeting deadlines.

We have addressed these requirements with:

- a range of BTEC sizes, each with a clear purpose, so there is something to suit each learner's choice of study programme and progression plans
- refreshed content that is closely aligned with employers' and higher education needs for a skilled future workforce
- assessments and projects chosen to help learners progress to the next stage. This means some are set by you to meet local needs, while others are set and marked by Pearson so that there is a core of skills and understanding that is common to all learners. For example, a written test can be used to check that learners are confident in using technical knowledge to carry out a certain job.

We provide a wealth of support, both resources and people, to ensure that learners and their teachers have the best possible experience during their course. See *Section 10* for details of the support we offer.

A word to learners

Today's BTEC Nationals are demanding, as you would expect of the most respected applied learning qualification in the UK. You will have to choose and complete a range of units, be organised, take some assessments that we will set and mark and keep a portfolio of your assignments. But you can feel proud to achieve a BTEC because, whatever your plans in life – whether you decide to study further, go on to work or an Apprenticeship, or set up your own business – your BTEC National will be your passport to success in the next stage of your life.

Good luck, and we hope you enjoy your course.

Collaborative development

Learners completing their BTEC Nationals in Agriculture will be aiming to go on to employment, often via the stepping stone of higher education. It was, therefore, essential that we developed these qualifications in close collaboration with experts from professional bodies, businesses and universities, and with the providers who will be delivering the qualifications. To ensure that the content meets providers' needs and provides high-quality preparation for progression, we engaged experts. We are very grateful to all the university and further education lecturers, teachers, employers, professional body representatives and other individuals who have generously shared their time and expertise to help us develop these new qualifications.

In addition, universities, professional bodies and businesses have provided letters of support confirming that these qualifications meet their entry requirements. These letters can be viewed on our website.

Summary of Pearson BTEC Level 3 National Extended Certificate in Agriculture specification Issue 6 changes

Summary of changes made between the previous issue and this current issue	Page number
Removal of references to MyBTEC, as that service is retiring.	Pages 74, 79, 84, 97, 98

If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

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Introduction to BTEC National qualifications for the agriculture sector

This specification contains the information you need to deliver the Pearson BTEC Level 3 National Extended Certificate in Agriculture. The specification signposts you to additional handbooks and policies. It includes all the units for this qualification.

This qualification is part of the suite of agriculture qualifications offered by Pearson. In the suite there are qualifications that focus on different progression routes, allowing learners to choose the one best suited to their aspirations.

All qualifications in the suite share some common units and assessments, allowing learners some flexibility in moving between qualifications where they wish to select a more specific progression route. The qualification titles are given below.

Within this suite are BTEC National qualifications for post-16 learners who want to specialise in a specific industry, occupation or occupational group. The qualifications give learners specialist knowledge and technical skills, enabling entry to an Apprenticeship or other employment, or progression to related higher education courses. Learners taking these qualifications must have a significant level of employer involvement in their programmes.

In the agriculture sector these are:

Pearson BTEC Level 3 National Extended Certificate in Agriculture (603/0872/2)

Pearson BTEC Level 3 National Foundation Diploma in Agriculture (603/0871/0)

Pearson BTEC Level 3 National Diploma in Agriculture (603/1212/9)

Pearson BTEC Level 3 National Extended Diploma in Agriculture (603/2676/1).

The Extended Certificate (360 GLH) and Extended Diploma (1080 GLH) are approved as Tech Level qualifications for 2020 performance measures by the DFE. The Foundation Diploma (540 GLH) and Diploma (720 GLH) are not currently recognised for performance measures. Please check our website for details of subsequent availability for future DFE performance measures.

Other BTEC National qualifications in this sector provide a broad introduction that gives learners transferable knowledge and skills. These qualifications are for post-16 learners who want to continue their education through applied learning. The qualifications prepare learners for a range of higher education courses either by meeting entry requirements in their own right or by being accepted alongside other qualifications at the same level and adding value to them. Learners may progress to one of the qualifications in this specification having completed a smaller qualification that provides suitable fundamental knowledge and skills.

This specification signposts all the other essential documents and support that you need as a centre in order to deliver, assess and administer the qualification, including the staff development required. A summary of all essential documents is given in *Section 7*. Information on how we can support you with this qualification is given in *Section 10*.

The information in this specification is correct at the time of publication.

Total Qualification Time

For all regulated qualifications, Pearson specifies a total number of hours that it is estimated learners will require to complete and show achievement for the qualification: this is the Total Qualification Time (TQT). Within TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve teachers and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by teachers or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

BTEC Nationals have been designed around the number of hours of guided learning expected. Each unit in the qualification has a GLH value of 60, 90 or 120. There is then a total GLH value for the qualification.

Each qualification has a TQT value. This may vary within sectors and across the suite, depending on the nature of the units in each qualification and the expected time for other required learning. The following table show all the qualifications in this sector and their GLH and TQT values.

Qualifications, sizes and purposes at a glance

Title	Size and structure	Summary purpose
Pearson BTEC Level 3 National Extended Certificate in Agriculture	360 GLH (540 TQT) Equivalent in size to one A Level. Four units of which three are mandatory and one is external. Mandatory content (83%). External assessment (33%).	This qualification offers an engaging programme to support learners who want to pursue a career in the agriculture sector. It is intended as a Tech Level qualification. This size of qualification allows learners to study related and complementary qualifications alongside it, without duplication of content. The qualification can prepare learners for a range of apprenticeships in the agriculture sector, or direct entry to roles such as trainee agricultural technician or general farm worker. When taken alongside further Level 3 qualifications, it supports progression to a range of higher education courses in agriculture or agricultural sciences.
Pearson BTEC Level 3 National Foundation Diploma in Agriculture*	540 GLH (850 TQT) Equivalent in size to 1.5 A Levels. Seven units of which five are mandatory and two are external. Mandatory content (78%). External assessment (44%).	This qualification is designed as a one-year, full-time course, or as part of a two-year, full-time study programme for learners who want to take it alongside another area of complementary study. It is intended as a Tech Level qualification and supports progression to careers in the agriculture sector. This qualification is primarily for learners who are intending to gain employment directly, in roles such as assistant herdsman and assistant machinery operator, but can also be used to progress to an apprenticeship or a higher education course in agriculture or agricultural sciences.
Pearson BTEC Level 3 National Diploma in Agriculture*	720 GLH (1085 TQT) Equivalent in size to two A Levels. Ten units of which seven are mandatory and two are external. Mandatory content (75%) External assessment (33%).	This qualification is designed to be the substantive part of a study programme for learners aged 16–19 who want a strong core of sector study. It is intended as a Tech Level qualification and supports progression to careers in the agricultural management sector. The qualification is an introduction to the sector and is primarily for learners who are intending to gain employment directly in roles such as stockperson, herdsman, machinery operator or trials officer. When taken alongside further Level 3 qualifications, it supports progression to a range of higher education courses in agriculture or agricultural sciences.

Title	Size and structure	Summary purpose
Pearson BTEC Level 3 National Extended Diploma in Agriculture	1080 GLH (1650 TQT) Equivalent in size to three A Levels. Fifteen units of which nine are mandatory and three are external. Mandatory content (67%) External assessment (33%).	This qualification is a two-year, full-time course for learners aged 16–19 and is intended as a Tech Level qualification. It is designed for learners who want to focus their studies on the agricultural sector, with a firm intention of progressing to employment in one of the agricultural management or specialist roles available. The qualification also supports progression for those learners who intend to further their studies in higher education.

Learners must not register on the BTEC Level 3 Nationals in Countryside Management, the BTEC Level 3 Nationals in Horticulture or the BTEC Level 3 Nationals in Forestry and Arboriculture at the same time as the BTEC Level 3 Nationals in Agriculture, owing to overlap of content and assessment.

* These qualifications are not currently recognised by DFE for performance measures.

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 Level 3 National in Agriculture is shown in *Section 2*. **You must refer to the full structure to select units and plan your programme.**

Key

	Unit assessed externally	M	Mandatory units	O	Optional units
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Unit (number and title)	Unit size (GLH)	Extended Certificate (360 GLH)	Foundation Diploma* (540 GLH)	Diploma* (720 GLH)	Extended Diploma (1080 GLH)
1 Professional Working Responsibilities	120	M	M	M	M
2 Plant and Soil Science	120		M	M	M
3 Contemporary Issues in the Land-based Sectors	120				M
4 Work Experience in the Land-based Sectors	60	M	M	M	M
5 Estate Skills	60	O	O	M	M
6 Crop Production	60		O	O	O
7 Farm Livestock Husbandry	60		O	O	O
8 Land-based Machinery Operations	60	O	M	M	M
9 Managing Environmental Activities in Agriculture	60		M	M	M
10 Crop Handling, Storage and Quality Assurance	60		O	O	O
11 Livestock Health and Diseases	60		O	O	O
12 Developing a Land-based Enterprise	60		O	O	O
13 Managing Activities for Agricultural Enterprises	60			M	M
14 Root Crop and Field Vegetable Production	60			O	O
15 Combinable Crop Production and Processing	60			O	O
16 Grass and Forage Crop Production	60			O	O
17 Poultry Production	60			O	O
18 Pig Production	60			O	O
19 Sheep Production	60			O	O
20 Beef Production	60			O	O

Unit (number and title)	Unit size (GLH)	Extended Certificate (360 GLH)	Foundation Diploma* (540 GLH)	Diploma* (720 GLH)	Extended Diploma (1080 GLH)
21 Dairy Production	60			O	O
22 Livestock Nutrition	60			O	O
23 Organic Agricultural Production	60			O	O
24 Land-based Workshop Practices	60			O	O
25 Agricultural Business Improvements	60				M
26 Selecting and Managing Land-based Machinery	60				O
27 Animal Genetics	60				O
28 Applied Agricultural Farming Practice	120	M			

* These qualifications are not currently recognised by DFE for performance measures.

Qualification and unit content

Pearson has developed the content of the new BTEC Nationals 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 attributes required in the sector.

Each qualification in the suite has its own purpose. The mandatory content provides a balance of breadth and depth ensuring that all learners have a strong basis for developing technical skills required in the sector. Learners are then offered the opportunity to develop a range of technical skills and attributes expected by employers with some opportunity to select between optional units where a degree of choice for individual learners to study content relevant to their own progression choices is appropriate. It is expected that learners will apply their learning in relevant employment and sector contexts during delivery and have opportunities to engage meaningfully with employers. The proportion of mandatory content ensures that all learners are following a coherent programme of study and acquiring the knowledge, understanding and skills that will be recognised and valued. Learners are expected to show achievement across mandatory units as detailed in *Section 2*.

BTEC Nationals have always required applied learning that brings together knowledge and understanding (the cognitive domain) with practical and technical skills (the psychomotor domain). This is achieved through learners performing vocational tasks that encourage the development of appropriate vocational behaviours (the affective domain) and transferable skills. Transferable skills are those such as communication, teamwork, planning and completing tasks to high standards, which are valued in both the workplace and in higher education.

Our approach provides rigour and balance, and promotes the ability to apply learning immediately in new contexts. Further details can be found in *Section 2*.

Centres should ensure that delivery of content is kept up to date. Some of the units within the specification may contain references to legislation, policies, regulations and organisations, which may not be applicable in the country you deliver this qualification in (if teaching outside of England), or which may have gone out-of-date during the lifespan of the specification. In these instances, it is possible to substitute such references with ones that are current and applicable in the country you deliver subject to confirmation by your Standards Verifier.

Assessment

Assessment is specifically designed to fit the purpose and objective of the qualification. It includes a range of assessment types and styles suited to vocational qualifications in the sector. There are three main forms of assessment that you need to be aware of: external, internal and synoptic.

Externally-assessed units

Each external assessment for a BTEC National is linked to a specific unit. All of the units developed for external assessment are of 120 GLH to allow learners to demonstrate breadth and depth of achievement. Each assessment is taken under specified conditions, then marked by Pearson and a grade awarded. Learners are permitted to resit external assessments during their programme. You should refer to our website for current policy information on permitted retakes.

The styles of external assessment used for qualifications in the agriculture suite are:

- examinations – all learners take the same assessment at the same time, normally with a written outcome
- set tasks – learners take the assessment during a defined window and demonstrate understanding through completion of a vocational task.

Some external assessments include a period of preparation using set information. External assessments are available twice a year. For detailed information on the external assessments please see the table in *Section 2*. For further information on preparing for external assessment see *Section 5*.

Internally-assessed units

Most units in the sector are internally assessed and subject to external standards verification. This means that you set and assess the assignments that provide the final summative assessment of each unit, using the examples and support that Pearson provides. Before you assess you will need to become an approved centre, if you are not one already. You will need to prepare to assess using the guidance in *Section 6*.

In line with the requirements and guidance for internal assessment, you select the most appropriate assessment styles according to the learning set out in the unit. This ensures that learners are assessed using a variety of styles to help them develop a broad range of transferable skills. Learners could be given opportunities to:

- demonstrate practical and technical skills using appropriate tools or processes
- complete realistic tasks to meet specific briefs or particular purposes
- write up the findings of their own research
- use case studies to explore complex or unfamiliar situations
- carry out projects for which they have choice over the direction and outcomes.

You will make grading decisions based on the requirements and supporting guidance given in the units. Learners may not make repeated submissions of assignment evidence. For further information see *Section 6*.

Synoptic assessment

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. BTEC learning has always encouraged learners to apply their learning in realistic contexts using scenarios and realistic activities that will permit learners to draw on and apply their learning. For these qualifications we have formally identified units that contain a synoptic assessment task. Synoptic assessment must take place after the teaching and learning of other mandatory units in order for learners to be able to draw from the full range of content. The synoptic assessment gives learners an opportunity to independently select and apply learning from across their programmes in the completion of a vocational task. Synoptic tasks may be in internally- or externally-assessed units. The particular unit that contains the synoptic tasks for this qualification is shown in the structure in *Section 2*.

Language of assessment

Assessment of the internal and external units for these qualifications will be available in English. All learner work must be in English. A learner taking the qualifications may be assessed in British or Irish Sign Language where it is permitted for the purpose of reasonable adjustment. For information on reasonable adjustments see *Section 7*.

Grading for units and qualifications

Achievement in the qualification requires a demonstration of depth of study in each unit, assured acquisition of a range of practical skills required for employment or progression to higher education, and successful development of transferable skills. Learners achieving a qualification will have achieved across mandatory units, including external and synoptic assessment.

Units are assessed using a grading scale of Distinction (D), Merit (M), Pass (P), Near Pass (N) and Unclassified (U). The grade of Near Pass is used for externally-assessed units only. All mandatory and optional units contribute proportionately to the overall qualification grade, for example a unit of 120 GLH will contribute double that of a 60 GLH unit.

Qualifications in the suite are graded using a scale of P to D*, **or** PP to D*D*, **or** PPP to D*D*D*. Please see *Section 9* for more details. The relationship between qualification grading scales and unit grades will be subject to regular review as part of Pearson's standards monitoring processes on the basis of learner performance and in consultation with key users of the qualification.

UCAS Tariff points

The BTEC Nationals attract UCAS points. Please go to the UCAS website for full details of the points allocated.

1 Qualification purpose

Pearson BTEC Level 3 National Extended Certificate in Agriculture

In this section, you will find information on the purpose of this qualification and how its design meets that purpose through the qualification objective and structure. We publish a full 'Statement of Purpose' for each qualification on our website. These statements are designed to guide you and potential learners to make the most appropriate choice about the size of qualification suitable at recruitment.

Who is this qualification for?

The Pearson BTEC Level 3 National Extended Certificate in Agriculture is intended as a Tech Level qualification and is equivalent in size to one A Level. It is designed to meet the Tech Bacc measure when studied alongside Level 3 mathematics and the Extended Project Qualification (EPQ). This size of qualification allows learners to study related and complementary qualifications without duplication of content. It provides good preparation for learners considering an apprenticeship in the agriculture sector. When taken alongside further Level 3 qualifications, it supports access to a range of higher education courses in the agriculture sector.

No prior study of the sector is needed but learners should normally have a range of achievement at Level 2, in GCSEs or equivalent qualifications.

It is intended as a Tech Level, and as such is designed to meet the Tech Bacc measure when studied alongside Level 3 mathematics and the Extended Project Qualification (EPQ).

What does this qualification cover?

The content of this qualification has been developed in consultation with employers and professional bodies to ensure that the content is appropriate for those interested in working in the sector. In addition, higher education representatives have been involved to ensure that it supports progression to higher study.

There are three mandatory units, which cover the following areas of agriculture:

- professional working responsibilities
- work experience in the land-based sector
- applied agricultural farming practice.

All learners taking this qualification will be required to engage with sector employers as part of their course, including 75 hours of work experience with an employer in the sector, where opportunities will be given to develop practical skills in preparation for employment.

What could this qualification lead to?

This qualification will prepare learners for direct employment in the agriculture sector, and is suitable for those wishing to enter a particular area of work, such as:

- general farm worker
- trainee agriculture technician
- trainee trials officer
- trainee crop technician.

The Pearson BTEC Level 3 National Extended Certificate in Agriculture is generally taken alongside other Level 3 qualifications, as part of a two-year programme of learning, so learners will be able to progress to a range of specialist degree programmes.

The qualification is recognised by higher education providers as meeting admission requirements to many relevant courses. For example, if taken alongside A Levels in Biology and Chemistry, or a BTEC Level 3 National Diploma in the relevant field of study, such as Applied Science or Business, it could lead to:

- BSc in Agriculture
- BSc (Hons) in Agriculture with Animal Science
- BSc (Hons) in Agriculture with Crop Management
- BSc (Hons) in Agriculture with Environmental Management
- BSc (Hons) in Agriculture with Farm Business Management
- BSc (Hons) in Agriculture with Mechanisation.

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

Learners may also progress to a Higher Apprenticeship.

How does the qualification provide employability and technical skills?

In the BTEC National units, there are opportunities during the teaching and learning phase to give learners practice in developing employability skills. Where employability skills are referred to in this specification, we are generally referring to skills in the following three main categories:

- **cognitive and problem-solving skills:** using critical thinking, approaching non-routine problems applying expert and creative solutions, using systems and technology
- **interpersonal skills:** communicating, working collaboratively, negotiating and influencing, self-presentation
- **intrapersonal skills:** self-management, adaptability and resilience, self-monitoring and development.

There are also specific requirements in some units for assessment of these skills where relevant, for example, where learners are required to undertake real or simulated activities.

Many of the mandatory and specified optional units encourage learners to develop the specific practical skills that employers are looking for.

How does the qualification provide transferable knowledge and skills for higher education?

All BTEC Nationals provide transferable knowledge and skills that prepare learners for progression to university or other higher study either immediately or for career progression. The transferable skills that universities value include:

- the ability to learn independently
- the ability to research actively and methodically
- the ability to give presentations and be active group members.

BTEC learners can also benefit from opportunities for deep learning where they are able to make connections among units and select areas of interest for detailed study. BTEC Nationals provide a vocational context in which learners can become prepared for lifelong learning through:

- reading technical texts
- effective writing
- analytical skills
- preparation for assessment methods used in a degree.

2 Structure

Qualification structure

Pearson BTEC Level 3 National Extended Certificate in Agriculture

Mandatory units

There are three mandatory units, two internal and one external. Learners must complete and achieve at Near Pass grade or above in the mandatory external unit. Learners must complete and achieve a Pass or above in the mandatory internal unit in group A. Learners must complete the mandatory internal unit in group B.

Optional units

Learners must complete at least one optional unit.

Learners must complete and achieve at pass grade or above in at least one unit across groups B and C.

Pearson BTEC Level 3 National Extended Certificate in Agriculture				
Unit number	Unit title	GLH	Type	How assessed
Mandatory units group A – learners complete and achieve the unit				
1	Professional Working Responsibilities	120	Mandatory	External
28	Applied Agricultural Farming Practice	120	Mandatory and Synoptic	Internal
Mandatory units group B – learners complete all units				
4	Work Experience in the Land-based Sectors	60	Mandatory	Internal
Optional units group C – learners complete one unit				
5	Estate Skills	60	Optional	Internal
8	Land-based Machinery Operations	60	Optional	Internal

External assessment

This is a summary of the type and availability of external assessment, which is of units making up 33 per cent of the total qualification GLH. See *Section 5* and the units and sample assessment materials for more information.

Unit	Type	Availability
Unit 1: Professional Working Responsibilities	<ul style="list-style-type: none">• A task set and marked by Pearson and completed under supervised conditions.• The supervised assessment is 3 hours in a specified session timetabled by Pearson.• Written submission of evidence.• 60 marks.	Jan and May/June First assessment January 2020

Synoptic assessment

The mandatory synoptic assessment requires learners to select and apply learning from across the qualification to the completion of defined key vocational tasks. Within the assessment for *Unit 28: Applied Agricultural Farming Practice*, learners review and evaluate the practices applied in an agricultural enterprise and produce a management plan to achieve optimum productivity. Learners complete the tasks using knowledge and understanding from their studies of the sector and apply both transferable and specialist knowledge and skills.

Learners approach the assessment having completed study and skills development relating to: working practices for health and safety and waste management in *Unit 1: Professional Working Responsibilities*; management and maintenance of agricultural infrastructure in *Unit 5: Estate Skills*; use, maintenance and management of agricultural equipment in *Unit 8: Land-based Machinery Operations*. Additionally, learners will have completed *Unit 4: Work Experience in the Land-based Sectors*, and gained experience of and insight into real working practices and standards in the sector.

In assessing the unit assignments will require learners to select from and apply their learning from across their programme. The unit provides further information.

Employer involvement in assessment and delivery

You need to ensure that learners on this qualification have a significant level of employer involvement in programme delivery or assessment. See *Section 4* for more information.

3 Units

Understanding your units

The units in this specification set out our expectations of assessment in a way that helps you to prepare your learners for assessment. The units help you to undertake assessment and quality assurance effectively.

Each unit in the specification is set out in a similar way. There are two types of unit format:

- internal units
- external units.

This section explains how the units work. It is important that all teachers, assessors, internal verifiers and other staff responsible for the programme review this section.

Internal units

Section	Explanation
Unit number	The number is in a sequence in the sector. Numbers may not be sequential for an individual qualification.
Unit title	This is the formal title that we always use and it appears on certificates.
Level	All units are at Level 3 on the national framework.
Unit type	This shows if the unit is internal or external only. See structure information in <i>Section 2</i> for full details.
GLH	Units may have a GLH value of 120, 90 or 60. This indicates the numbers of hours of teaching, directed activity and assessment expected. It also shows the weighting of the unit in the final qualification grade.
Unit in brief	A brief formal statement on the content of the unit that is helpful in understanding its role in the qualification. You can use this in summary documents, brochures etc.
Unit introduction	This is designed with learners in mind. It indicates why the unit is important, how learning is structured, and how learning might be applied when progressing to employment or higher education.
Learning aims	These help to define the scope, style and depth of learning of the unit. You can see where learners should be learning standard requirements ('understand') or where they should be actively researching ('investigate'). You can find out more about the verbs we use in learning aims in <i>Appendix 2</i> .
Summary of unit	This new section helps teachers to see at a glance the main content areas against the learning aims and the structure of the assessment. The content areas and structure of assessment are required. The forms of evidence given are suitable to fulfil the requirements.
Content	This section sets out the required teaching content of the unit. Content is compulsory except when shown as 'e.g.'. Learners should be asked to complete summative assessment only after the teaching content for the unit or learning aim(s) has been covered.

Section	Explanation
Assessment criteria	<p>Each learning aim has Pass and Merit criteria. Each assignment has at least one Distinction criterion.</p> <p>A full glossary of terms used is given in <i>Appendix 2</i>. All assessors need to understand our expectations of the terms used.</p> <p>Distinction criteria represent outstanding performance in the unit. Some criteria require learners to draw together learning from across the learning aims.</p>
Essential information for assignments	<p>This shows the maximum number of assignments that may be used for the unit to allow for effective summative assessment, and how the assessment criteria should be used to assess performance.</p>
Further information for teachers and assessors	<p>The section gives you information to support the implementation of assessment. It is important that this is used carefully alongside the assessment criteria.</p>
Resource requirements	<p>Any specific resources that you need to be able to teach and assess are listed in this section. For information on support resources see <i>Section 10</i>.</p>
Essential information for assessment decisions	<p>This information gives guidance for each learning aim or assignment of the expectations for Pass, Merit and Distinction standard. This section contains examples and essential clarification.</p>
Links to other units	<p>This section shows you the main relationship among units. This section can help you to structure your programme and make best use of materials and resources.</p>
Employer involvement	<p>This section gives you information on the units that can be used to give learners involvement with employers. It will help you to identify the kind of involvement that is likely to be successful.</p>

External units

Section	Explanation
Unit number	The number is in a sequence in the sector. Numbers may not be sequential for an individual qualification.
Unit title	This is the formal title that we always use and it appears on certificates.
Level	All units are at Level 3 on the national framework.
Unit type	This shows if the unit is internal or external only. See structure information in <i>Section 2</i> for full details.
GLH	Units may have a GLH value of 120, 90 or 60 GLH. This indicates the numbers of hours of teaching, directed activity and assessment expected. It also shows the weighting of the unit in the final qualification grade.
Unit in brief	A brief formal statement on the content of the unit.
Unit introduction	This is designed with learners in mind. It indicates why the unit is important, how learning is structured, and how learning might be applied when progressing to employment or higher education.
Summary of assessment	This sets out the type of external assessment used and the way in which it is used to assess achievement.
Assessment outcomes	These show the hierarchy of knowledge, understanding, skills and behaviours that are assessed. Includes information on how this hierarchy relates to command terms in sample assessment materials (SAMs).
Essential content	For external units all the content is obligatory, the depth of content is indicated in the assessment outcomes and sample assessment materials (SAMs). The content will be sampled through the external assessment over time, using the variety of questions or tasks shown.
Grade descriptors	We use grading descriptors when making judgements on grade boundaries. You can use them to understand what we expect to see from learners at particular grades.
Key terms typically used in assessment	These definitions will help you analyse requirements and prepare learners for assessment.
Resources	Any specific resources that you need to be able to teach and assess are listed in this section. For information on support resources see <i>Section 10</i> .
Links to other units	This section shows the main relationship among units. This section can help you to structure your programme and make best use of materials and resources.
Employer involvement	This section gives you information on the units that can be used to give learners involvement with employers. It will help you to identify the kind of involvement that is likely to be successful.

Index of units

This section contains all the units developed for this qualification. Please refer to *pages 5–6* to check which units are available in all qualifications in the agriculture sector.

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Unit 1: Professional Working Responsibilities

Level: **3**

Unit type: **External**

Guided learning hours: **120**

Unit in brief

Learners study professional responsible working practices with a focus on ensuring health and safety, wellbeing, resource management and waste management in the land-based sectors.

Unit introduction

The land-based sectors are made up of diverse industries, with the majority of people being self-employed. The sectors directly manage almost 90% of the UK's land mass. Promoting and maintaining welfare, health and safety, and effective waste management in the working environment is essential for all the sectors. It is also a key requirement for the development of all employees.

In this unit, you will investigate the impact that professional working responsibilities have on personal welfare. You will learn about health and safety legislation, safe working practices, risk assessments, and the professional skills required to work safely and effectively in the land-based sectors. You will develop skills in and knowledge of good practice and professional responsibility towards self and others in the workplace, including the duty of care for the environment, relating this to resource efficiency and responsible management. You will develop your skills to interpret appropriate policies, plans, audits, maps and schematic diagrams in relation to safe working practices, reducing the impact of waste, and analysing documentation to review operational plans. You will develop a sound understanding of personal and professional responsibilities required to enter employment, with a strong awareness of how to be safe and keep others safe. To complete the assessment task within this unit, you will need to draw on your learning from across your programme.

This unit will prepare you for progression to employment in a trainee or supervisory role in the land-based sectors or to set up your own land-based business. You will also gain skills that prepare you for further or higher education courses, including agricultural science, plant science, environmental studies and land management.

Summary of assessment

This unit is assessed by a task set by Pearson.

In the assessed task, learners are given information and will complete a number of activities demonstrating their knowledge and understanding of professional working responsibilities.

The task will be carried out under supervised conditions in a single three-hour session timetabled by Pearson.

The number of marks for the unit is 60.

The assessment availability is January and May/June each year. The first assessment availability is January 2020.

Sample assessment materials will be available to help centres prepare learners for assessment.

Assessment outcomes

AO1 Demonstrate knowledge and understanding of personal and professional working responsibilities and practices, risk management and waste management in the land-based sectors.

AO2 Analyse the application of personal and professional working responsibilities and practices, to risk management, and waste management in the land-based sectors.

AO3 Evaluate approaches to working personal and professional responsibilities and practices, risk management, and waste management in the land-based sectors.

AO4 Make connections between principles and practices of health and safety management in the land-based sectors.

Essential content

The essential content is set out under content areas. Learners must cover all specified content before the assessment.

A Professional responsibilities associated with the workplace

A1 Characteristics of professional working responsibilities and sources of relevant information

- Understanding the scope of professional working responsibilities in the land-based sectors, including:
 - compliance with current legislation and industry codes of practice
 - minimising risk to self, others and the environment
 - following industry best practice
 - working to industry standards
 - developing skills through continuing professional development (CPD).
- Stakeholders associated with developing, promoting and upholding professional responsibilities, including the role of:
 - employers
 - employees
 - government departments and agencies
 - trades unions
 - professional bodies and trade associations.
- Sources of information on professional working responsibilities, including:
 - staff handbooks, staff lists and staff induction documents
 - internet-based resources, including government legislation
 - professional publications
 - codes of conduct
 - contracts of employment.

A2 Characteristics and scope of personal responsibilities in the workplace

- Promoting a working environment and culture that is healthy, safe and effective, including awareness of the role of:
 - industry schemes
 - employer awareness campaigns
 - external training programmes and training providers
 - workplace policies, including whistleblower policies.
- Promoting effective working relationships.
- Awareness of factors that may have a negative impact on own and others' personal welfare and workplace performance, including:
 - personal stress
 - illness
 - work-related stress and workload
 - lone working.
- Accessing sources of assistance and support for wellbeing in the workplace, and their importance, including:
 - NHS services
 - charities
 - professional and trade organisations
 - professional counselling and mental health organisations
 - industry schemes.

- Awareness of the importance of CPD, including:
 - formal and informal opportunities for skills development
 - job shadowing
 - upskilling
 - awareness of industry-specific certificates of competence.

B Health and safety responsibilities

B1 Introduction to health and safety and associated legislation

Awareness of current health and safety legislation that applies in a working environment and how legislation impacts on working activities.

- Statutes and regulations current at the time of assessment:
 - Management of Health and Safety at Work Regulations 1999
 - Health and Safety at Work etc. Act 1974
 - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013
 - Control of Substances Hazardous to Health (COSHH) Regulations 2002
 - Manual Handling Operations Regulations 1992
 - Work at Height Regulations 2005
 - Provision and Use of Work Equipment Regulations (PUWER) 1998
 - Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
 - The Electricity at Work Regulations 1989.
- Health and safety audit, including:
 - analysis of previous incidents and near misses
 - identifying good practice, poor practice and gaps in health and safety policies and procedures
 - suggesting improvements
 - setting objectives
 - considering cost-benefit implications of issues identified and improvements suggested.

B2 Safe working practices

Awareness of key concepts of safe working practices, with reference to health and safety and the environment.

- The importance of training staff and implementing policies and practices in order to maintain appropriate standards in health and safety practices.
- Access to adequate welfare facilities, including drinking water, toilets, wash facilities.
- Provision of an appropriate and safe working environment, including ventilation, temperature, lighting and adequate maintenance of the working area.
- Provision of first-aid training and equipment, including first aid at work training.
- Using personal protective equipment (PPE) correctly, including when:
 - operating, maintaining and repairing machinery
 - handling organic or hazardous substances
 - requiring protection from ultraviolet (UV) light
 - requiring protection from weather conditions.
- Minimising risk of disease, including:
 - wearing correct clothing
 - using the correct equipment and in the correct manner
 - practising appropriate standards of biosecurity, including hygiene and self-awareness
 - awareness of causes and symptoms of common diseases affecting those working in land-based sectors, including legionnaires' disease, leptospirosis, tetanus, salmonella, Lyme disease, E. coli, cryptosporidium.
- Safe use of machinery, including standard operating procedures (SOPs) for common land-based machinery and the consequences if SOPs are not followed.

- Fire safety, including:
 - fire alarms, extinguishers and blankets
 - ensuring combustible materials are stored in a safe and appropriate way
 - taking reasonable steps to minimise risk of fire and arson in buildings and in the environment.
- Producing and displaying an evacuation plan for all areas, including evacuation in the event of fire.
- Electrical safety, including:
 - requirement for all electrical work to be carried out by a competent person
 - ensuring all electrical equipment is in an appropriate state for use
 - portable appliance testing (PAT) and residual current devices (RCDs)
 - overhead lines and underground cables
 - using rechargeable equipment and tools where appropriate.
- Displaying safety information, including symbols on machinery and product labels.
- Signage, including:
 - fire safety signage
 - signs prohibiting certain behaviour
 - warning signs
 - signs prescribing specific behaviour
 - signs indicating emergency escape or first aid.
- Reporting of accidents and near misses.
- Importance of working in ways that avoid or minimise negative environmental impacts, including:
 - knowledge and application of legislation relevant to environmental impacts
 - being aware of the potential environmental impact, both negative and positive, of activities carried out in the workplace
 - steps that can be taken in order to minimise the negative environmental impacts of work carried out.

B3 Risk assessment

The requirement to carry out risk assessments, dynamic risk assessments and the relationship to current relevant legislation.

- Using and interpreting risk assessments:
 - written or static risk assessments prepared before the activities
 - dynamic risk assessment carried out while undertaking activities
 - qualitative or subjective analysis of risk
 - numerical or objective analysis of risk, including severity and likelihood, hierarchy of controls.
- Risk mitigation strategies and their implementation to manage identified risks, including:
 - cost–benefit analysis of specific mitigation strategies.
- Producing dynamic risk assessments:
 - presence of the general public, employees and contractors
 - interpretation of given information, including product labels, signage and COSHH data sheets
 - lone working practices.

B4 Schematics and maps

The importance of maps and schematic diagrams in establishing the locations of services and drainage, for purposes relating to health and safety, land management and the environment.

- Interpreting and using maps and schematics at a variety of scales.
- Using maps and schematics to analyse and record information, including:
 - the role of Global Positioning System (GPS), aerial photographs and online mapping services.
- Determining and checking the location of services, both overground and underground.

- Equipment and techniques required to locate services accurately, including the:
 - use of cable avoidance tool (CAT) and Genny
 - importance of safe digging techniques
 - importance of isolating services, including gas, water and electric.

B5 Purpose of risk assessment

- Uses and implementation of risk assessments.
- Scenarios for risk assessment use:
 - application of health and safety, environmental and waste management policies and procedures
 - response to a specific incident, including incidents reported in the press
 - the permanent or temporary change of use of land or buildings
 - the purchase or installation of new equipment
 - the development of a new enterprise or new methods of working
 - implementing new initiatives, including changes to legislation.

C Managing waste responsibly and safely

Classify waste, understand the relevant legal responsibilities and develop waste management strategies that consider the cost–benefit implications of waste management.

C1 Animal, plant and non-organic waste

- Definition and sources of organic and inorganic wastes in the land-based sectors, including:
 - aggregates, plastics and metals
 - biodegradable waste
 - controlled waste
 - hazardous waste
 - dirty or foul water
 - grey water.
- Awareness that designated areas in the working environment have specific types of items and processes for waste disposal and management.

C2 Legal responsibilities for waste management

- Current waste management legislation and documentation specific to land-based sectors, including:
 - duty of care
 - waste exemptions
 - waste disposal documentation
 - hazardous and controlled waste
 - custody of waste.
- The waste hierarchy system, including:
 - prevention, including procurement to reduce waste
 - prepare to reuse
 - recycle
 - other recovery, including incineration, anaerobic digestion and gasification, and pyrolysis with energy recovery
 - disposal, including landfill and incineration without energy recovery.
- The potential impact of waste and waste disposal on sustainability, climate change and the environment, including:
 - advantages and disadvantages
 - social factors
 - economic factors
 - environmental factors.
- Innovations in waste management.

C3 Environmental and waste management policies, plans and audits

Documents and processes related to health, safety, the environment and waste management.

- Use of audits to establish the current situation in a business or enterprise.
- Audit procedures, including frequency, checklists, logs, metering and measurements.
- The role of audits to inform or update plans and policies.
- Financial implications and cost–benefit analysis of waste storage and disposal, including:
 - economic advantages and disadvantages of specific waste management strategies
 - environmental advantages and disadvantages of specific waste management strategies.

Grade descriptors

To achieve a grade learners are expected to demonstrate these attributes across the essential content of the unit. The principle of best fit will apply in awarding grades.

Level 3 Pass

Learners will demonstrate knowledge and understanding of basic professional working and safe working in a land-based setting. Learners will demonstrate that they can apply safe working practices to a given context. They will identify areas of good practice, areas where standards could be raised and outline basic methods of doing this. Learners will be able to make some connections between the risks that are associated with a specific activity in a given context, with a range of variables. Learners will apply some valid concepts to the correct and safe management of different types of waste, they will understand the need to apply legal and environmental considerations to this and the management of resources, and its link to sustainability.

Level 3 Distinction

Learners will demonstrate detailed knowledge and understanding of professional working and safe working in a land-based setting. Learners will demonstrate that they can apply justified safe working practices to a given context. They will identify areas of good practice, areas where standards could be raised and outline accurate recommendations for doing this, using a detailed and appropriate action plan. Learners will be able to make appropriate and justified connections between the risks that are associated with a specific activity in a given context, with a range of variables. Learners will apply accurate and detailed concepts to the correct and safe management of different types of waste, they will understand the need to apply legal and environmental considerations to this and the management of resources, and its link to sustainability.

Key words typically used in assessment

The following table shows the key words that will be used consistently by Pearson in our assessments to ensure learners are rewarded for demonstrating the necessary skills.

Please note: the list below will not necessarily be used in every paper/session and is provided for guidance only.

Command or term	Definition
Analyse	Learners present the outcome of methodical and detailed examination either: <ul style="list-style-type: none"> to discover the meaning or essential features of a theme, topic or situation by breaking something down into its components or examining factors methodically and in detail by identifying separate factors, stating how they are related and explaining how each one contributes to the topic.
Complete	Learners enter relevant information or data as required to a structured item such as a table or diagram.
Dynamic risk assessment	The process of identifying risks and hazards continuously and in response to changes in situations and activities.

Command or term	Definition
Evaluate	Learners review information before bringing it together to form a conclusion or come to a supported judgement of a subject's qualities in relation to its context, drawing on evidence: strengths, weaknesses, alternative actions, significance, relevant data or information.
Health and safety audit	The auditing of information on the effectiveness of health and safety policies and procedures.
Interpretation	Learners are able to draw the meaning, purpose or qualities of something from a stimulus.
Justify/Justification	Learners give reasons or evidence to: <ul style="list-style-type: none"> • support an opinion and/or decision • prove something right or reasonable.
Recommend	Learners put forward someone or something with approval as being suitable for a particular purpose or role.
Strategies	Method or plan to bring out a desired outcome, such as the achievement of a goal or solution to a problem.
Waste management plan	A plan for the disposal of a range of waste materials, showing consideration of legal requirements, environmental responsibilities and sustainability.

Links to other units

This unit links to *Unit 4: Work Experience in the Land-based Sectors*.

Employer involvement

This unit would benefit from employer involvement in the form of:

- masterclasses
- technical workshops involving staff from local land-based organisations
- contribution of ideas to unit assignment/project materials
- observation during work experience
- support from local land-based organisation staff as mentors.

Unit 4: Work Experience in the Land-based Sectors

Level: **3**

Unit type: **Internal**

Guided learning hours: **60**

Unit in brief

Learners research work opportunities in the land-based sectors and the skills needed to attain them, developing communication and employability skills through study and work experience.

Unit introduction

Where do you picture yourself in five years' time? Do you know about the wide range of career opportunities open to you in the land-based sectors? Discovering these opportunities and understanding the skills and qualifications needed in order to gain employment in these sectors will help you to answer these questions as well as to plan your career.

In this unit, as well as investigating employment opportunities, you will examine how good communication and employability skills can improve your prospects in gaining and staying in employment. You will learn how and where to access information about employment vacancies and further courses of study as well as how to develop your curriculum vitae (CV) and adapt it for specific vacancies. You will also learn how to develop good communication, interview and customer service skills. You will apply for and take on available work experience roles in the sector and reflect on your own progress.

This unit will help prepare you for employment in the land-based sectors in areas such as forestry, arboriculture, aquaculture, landscaping, horticulture, fencing, fisheries management, floristry, gamekeeping, conservation, countryside management and wildlife management, and their related service industries. It will also help you progress to higher education in courses such as BSc (Hons) degrees in agriculture, countryside management, horticulture and forestry management.

Learning aims

In this unit you will:

- A** Investigate employment opportunities in the land-based sectors to target progression
- B** Develop communication and interview skills to improve employment prospects in the land-based sectors
- C** Undertake work experience in the land-based sectors to contribute to personal and professional development.

Summary of unit

Learning aim	Key content areas	Recommended assessment approach
A Investigate employment opportunities in the land-based sectors to target progression	A1 Scope of the land-based sectors A2 Requirements for progression A3 Relevant legislation for work placement opportunities	A portfolio of work-related learning research, completed application documents and mock interview outcomes, e.g. observation, video.
B Develop communication and interview skills to improve employment prospects in the land-based sectors	B1 Applying for work-related activities B2 Interview skills B3 Reflecting on preparation and performance	
C Undertake work experience in the land-based sectors to contribute to personal and professional development	C1 Practical work experience C2 Work behaviours C3 Reflecting on workplace practice	A report reflecting on work experience, informed by employer verification of participation and other feedback.

Content

Learning aim A: Investigate employment opportunities in the land-based sectors to target progression

A1 Scope of the land-based sectors

- Analysis of progression opportunities to determine desirability, suitability and feasibility.
- Land-based sectors – appropriate broad representation of current industries, e.g. production crops, agricultural livestock, aquaculture, environmental conservation, countryside management, fencing, fisheries management, floristry, gamekeeping and wildlife management, land-based engineering, landscaping, production and amenity horticulture, forestry and arboriculture.
- Opportunities – the range of career and progression opportunities available within chosen sector and opportunities within related sectors, e.g. retail, leisure, tourism, hospitality.
- Higher education – UCAS, entry requirements, student loans.
- Apprenticeships – requirements, timescales, pay scales, balance between academic and practical work, assessment, higher apprenticeships.
- Employment sectors:
 - public sector, e.g. education, government, local government, countryside officer/ranger, public grounds and parks
 - private sector, e.g. country parks, garden centres
 - voluntary sector or charities, e.g. wildlife trusts, wildlife parks.
- Employment sectors, to include an appropriate broad representation of current industries, e.g. agricultural sales, food production, aquaculture, floristry, production horticulture, land-based engineering.
- Self-employment, e.g. gamekeeper, agricultural contractor, arborist, gardener.

A2 Requirements for progression

Knowledge of formal and informal requirements for progression.

- Entry criteria, including qualifications, skills and knowledge.
- Self-management, including study skills, presentation and attitude, time management and planning.
- Exit criteria for specific progression routes.
- Soft skills, including communication, problem solving, individual and team and leadership skills, personal management.

A3 Relevant legislation for work placement opportunities

- Safeguarding at work placements.
- Contracts of employment and working hours (in relation to age), including zero-hours contracts/fixed-term/hourly-paid/permanent (full-/part-time) contracts, Working Time Regulations 1998, Pay As You Earn (PAYE), statutory leave, maternity/paternity leave, employment status.
- Different legal status of business: single owner (self-employed)/partnership/limited company/self-employed subcontractor.
- Awareness of the impact of current legislation supporting conduct in the workplace for employers and employees (full-time, part-time, casual, interns and work placements), such as:
 - Health and Safety at Work etc. Act 1974
 - Equality Act 2010
 - Data Protection legislation
 - Control of Substances Hazardous to Health (COSHH) Regulations 2002
 - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013
 - Animal Welfare Act 2006.

Learning aim B: Develop communication and interview skills to improve employment prospects in the land-based sectors

B1 Applying for work-related activities

- Selection of work, including different sources of vacancies such as websites, trade publications and sector-wide bodies, e.g. Lantra.
- Importance of reading job description, personal specification, including relevance of essential or desirable criteria, to include qualifications, skills, experience.
- Completion of CV and adapting CV or job application to specified vacancy.
- Letters of application, supporting statements and completing application forms, to include standing out from the crowd, addressing relevance to employers and how they might shortlist candidates.
- Correct use of language, grammar, spelling and punctuation.

B2 Interview skills

Creating an impression through effective communication.

- Preparation and presentation skills, including:
 - planning and practice for the interview
 - interview styles, e.g. competency or behaviour-based, knowledge-focused
 - personal appearance and hygiene
 - interpersonal skills and attitude
 - body language.
- Listening and talking skills, including:
 - interview conventions
 - use of language – what is/what is not appropriate
 - building rapport
 - developing a dialogue
 - effective listening and questioning
 - non-verbal communication, e.g. eye contact.

B3 Reflecting on preparation and performance

- Reflecting on preparation for interviews and interview performance, including knowledge of employer and role, communication skills, professional behaviour.

Learning aim C: Undertake work experience in the land-based sectors to contribute to personal and professional development

C1 Practical work experience

Operating in workplace practices, including:

- knowledge of the purpose of the business and/or environment
- knowledge of reporting procedures with regard to behaviour and expectations, e.g. lateness, sickness, emergency
- health and safety protocols, e.g. fire safety, emergency procedures
- procedures to maintain confidentiality.

C2 Work behaviours

- Completion of role to add value in the workplace:
 - understanding the extent and limitation of own roles and responsibilities
 - carrying out tasks according to roles and responsibilities
 - following instructions
 - communicating with others
 - self-management
 - working safely
 - reliability, regular attendance and commitment
 - punctuality
 - use of initiative
 - cooperation with colleagues and end users, e.g. customers, clients, other organisations.
- Obtaining feedback, including:
 - timesheets signed by an appointed person at work experience employment, confirming appropriate attendance and punctuality
 - employer or teacher observation/witness statements
 - employer feedback sheets, provided at intervals.

C3 Reflecting on workplace practice

Reflecting on personal performance in relation to own career progression, to include:

- formative feedback from employer(s), colleagues, teacher, stakeholders
- performance self-assessment
- review of areas for development, to include SWOT (strengths, weaknesses, opportunities, threats) analysis, SMART (specific, measurable, achievable, relevant, time-based) target setting, knowledge of SWOT and SMART in learning development.

Assessment criteria

Pass	Merit	Distinction
Learning aim A: Investigate employment opportunities in the land-based sectors to target progression		
A.P1 Explain the value of own research and preparation carried out for work experience, related opportunities and progression routes. A.P2 Explain accurately the relevant legislation relating to a work placement.	A.M1 Analyse the value of own research and preparation carried out for work experience, related opportunities and progression routes.	
Learning aim B: Develop communication and interview skills to improve employment prospects in the land-based sectors		A.D1 Evaluate how effective preparation for work experience can significantly enhance employment prospects. B.D2 Evaluate own preparation for and performance in work experience interview, including review of all future opportunities.
B.P3 Explain the preparation and research carried out for a work experience interview. B.P4 Demonstrate communication and interpersonal skills as an interviewee for a selected work experience.	B.M2 Perform proficiently as an interviewee for a selected work experience, using appropriate communication and interpersonal skills.	
Learning aim C: Undertake work experience in the land-based sectors to contribute to personal and professional development		C.D3 Evaluate the effectiveness of the work experience carried out in improving occupational and personal skills to make best use of opportunities for employment.
C.P5 Explain how the work experience undertaken has improved occupational and personal skills for future opportunities. C.P6 Review how own performance during work experience contributed to the employer.	C.M3 Assess the value of the occupational and personal skills developed during work experience for future opportunities. C.M4 Analyse the impact on the employer of own performance during work experience.	

Essential information for assignments

The recommended structure of assessment is shown in the unit summary along with suitable forms of evidence. *Section 6* gives information on setting assignments and there is further information on our website.

There is a maximum number of two summative assignments for this unit. The relationship of the learning aims and criteria is:

Learning aims: A and B (A.P1, A.P2, B.P3, B.P4, A.M1, B.M2, A.D1, B.D2)

Learning aim: C (C.P5, C.P6, C.M3, C.M4, C.D3)

Further information for teachers and assessors

Resource requirements

For this unit, learners must have access to a work experience role, for example work placement, part-time work, volunteering etc. Employers must be external to the centre.

Teachers should consider devising a set of criteria they can use to give feedback when carrying out practice interviews.

Essential information for assessment decisions

Learning aims A and B

For distinction standard, learners will produce a written report evaluating the quality of their own preparation when seeking work experience. This will include their investigation and research carried out, completion of application documents adapted for specific roles, and completion of a mock interview or employer-evidenced real interview. The report will include conclusions about the quality of each step of the preparation, linking this to the teacher's evaluation of the mock interview and the chance of securing employment. Learners will write a conclusion that includes clear understanding of best practice in this area.

For merit standard, learners will produce a written analysis of the quality of their own preparation when seeking work experience. This will include their investigation and research carried out, completion of application documents adapted for specific roles, and completion of a good mock interview or employer-evidenced real interview. The analysis will include a detailed examination of each step of the preparation, linking this to the chance of securing employment. Learners will include an analysis of the teacher's evaluation of the mock interview.

For pass standard, learners will consider the value of their own preparation when seeking work experience, for example investigation and research carried out, completion of application documents adapted to specific roles, and completion of a mock interview or employer-evidenced real interview. Learners will include links to the teacher's evaluation of the mock interview. Learners could include a SWOT analysis.

Learning aim C

Learners need to review and reflect on their time undertaking work experience. This will relate to the number of hours required by the qualification.

For distinction standard, learners will undertake work experience and supply reasoning in their reflective reports to determine the effectiveness of the completed work experience and its capacity to improve their opportunities for employment. Their reasoning will consider the relationship between the occupational and personal skills developed during the work experience and how these may help them in securing future employment. The relationship between learners' own performance during work experience and its impact on the employer will also be covered. Learners will consider how well they prepared themselves for the work experience activities in order to gain the most from the experience(s). Learners' reflections should take account of employer and teacher feedback, and observations of them during their work experience.

For merit standard, learners will undertake work experience and present in their reflective reports a relationship between the occupational and personal skills developed during the work experience, and a discussion about how these skills will help secure employment. Learners will consider the relationship between their own performance during the work experience and its impact on the employer. Learners' reflections should take account of employer and teacher feedback, and observations of them during their work experience.

For pass standard, learners will undertake work experience and present in their reflective reports a consideration of how they developed different occupational and personal skills during their placement. Learners will make a formal assessment of their own performance during work experience based on feedback, including a SWOT analysis, and link this to their contribution to the employer. Learners' reflections should take account of employer and teacher feedback, and observations of them during their work experience.

Links to other units

This unit links with all others in the specification.

Employer involvement

This unit would benefit from employer involvement in the form of:

- technical workshops involving staff from local land-based organisations
- contribution of ideas to unit assignment/project materials
- observation during work experience
- support from local land-based organisation staff as mentors.

Unit 5: Estate Skills

Level: **3**

Unit type: **Internal**

Guided learning hours: **60**

Unit in brief

Learners develop the skills needed to manage and maintain habitats, structures, surfaces, boundaries and services that are found in the land-based sector.

Unit introduction

Managing the physical environment of the land-based sectors means you need to be able to maintain, repair and install a variety of different structures, surfaces, boundaries and services, as well as maintain habitats, ensuring that work is carried out efficiently and safely.

In this unit, you will develop the knowledge and skills needed to manage the repair, maintenance and installation of the fabric of businesses and organisations working in the land-based sectors. These include forestry, horticulture and agriculture as well as more general countryside management. You will learn to plan, implement and reflect on maintenance tasks, including those you carry out yourself and those completed by others such as staff or professional contractors whose work you will manage. In this unit, you will draw on your learning from across the programme to complete assessment tasks.

This unit will give you the skills required to progress to employment as a trainee farm or forestry worker, garden centre assistant or as part of an estate management team. It is also an excellent introduction to a degree in estate management.

Learning aims

In this unit you will:

- A** Explore estate skills for the management and maintenance of habitats and environments
- B** Undertake estate skills and their management for the land-based sector
- C** Carry out the supervision of others engaged in maintenance, repair and installation tasks in the land-based sector.

Summary of unit

Learning aim	Key content areas	Recommended assessment approach
<p>A Explore estate skills for the management and maintenance of habitats and environments</p>	<p>A1 The nature and scope of estate skills for land-based sector management</p> <p>A2 Assessing needs</p> <p>A3 Planning tasks</p>	<p>A portfolio of evidence that plans for estate management projects. The portfolio should include:</p> <ul style="list-style-type: none"> • surveys • relevant legislation and codes of practice • a plan, including schedules and specifications.
<p>B Undertake estate skills and their management for the land-based sector</p>	<p>B1 Working safely</p> <p>B2 Practical estates tasks</p> <p>B3 Reflecting on tasks undertaken</p>	<p>Evidence of tasks carried out and reflection on task outcomes, to include:</p> <ul style="list-style-type: none"> • logbooks, observation records and witness statements of tasks undertaken • a review of task outcomes.
<p>C Carry out the supervision of others engaged in maintenance, repair and installation tasks in the land-based sector</p>	<p>C1 Workforce supervision</p> <p>C2 Supervise estate skills undertaken</p> <p>C3 Evaluate estate skills tasks completed</p>	<p>Evidence of the supervision of others in carrying out tasks, to include:</p> <ul style="list-style-type: none"> • an evaluation framework that includes task outcome and workforce supervision • observation records and witness statements that demonstrate supervision and management of scheduled tasks • a review of the outcomes of tasks carried out by others • a review of own supervision of a workforce.

Content

Learning aim A: Explore estate skills for the management and maintenance of habitats and environments

A1 The nature and scope of estate skills for land-based sector management

Understanding the form and function of estate skills elements that are found in the land-based sector.

- Boundaries, including:
 - deer or rabbit fencing, electric fencing, stock fencing, and post and rail fencing
 - decorative fencing.
- Surfaces, including:
 - paths, tracks, rides, accommodation flooring, grassed surfaces
 - drainage of surfaces, including field drains.
- Structures to provide for land-based management, including:
 - field structures, e.g. field shelters, stiles and way markers, greenhouses, cold frames, raised beds
 - gates and water troughs
 - internal structures, e.g. drinkers, stall furniture and feeders
 - finishes, including paints, varnishes and preservatives.
- Habitat maintenance for land-based management, including:
 - weed and invasive plant control, scrub clearance, hedgerow cutting/layering
 - wildlife refuges, e.g. nesting/resting boxes, woodpiles, hedgehog tunnels.
- Supply, distribution or storage of mains services and utilities, including:
 - water and gas, including bottled gas, electricity, fuel, oil
 - sewerage, including mains, cesspit and septic tank.
- Materials, tools and construction methods used for estate skills tasks:
 - basic construction materials, e.g. wood, concrete, woodchip, tarmac, type 1 aggregate, fencing, galvanised sheets, polypropylene piping
 - common specialist tools and basic test equipment, e.g. circuit tester
 - fixtures and fittings, e.g. hinges, locks, ball valves, pipe connections
 - selection, transport, maintenance and storage of tools, materials and equipment.

A2 Assessing needs

Inspection of boundaries, surfaces, structures, services and habitats.

- Inspecting boundaries, surfaces, habitats and structures for their maintenance, repair, construction and installation needs.
- Inspection and basic fault-finding of electrical circuits and devices using non-contact test equipment.
- Inspection of drainage, gas and water services for leaks and blockages.
- Methods and processes for reporting inspection findings, to include verbal and written, use of appropriate maps, plans and diagrams.

A3 Planning tasks

The application of regulations and specific, current regulations and guidance notes relevant to estate skills for land-based management, including health and safety at work and those relating to animal welfare.

- Government welfare codes of practice for specific animals and plants.
- Use of risk assessments, their purpose and types, including static, dynamic, qualitative and quantitative.
- Correct selection and use of personal protective equipment (PPE).
- Assessing the task, including measuring, estimating, use of maps, diagrams and plans.
- Creating and using schedules of tasks.

- Job specifications, to include job description and rationale, timescales, tools, equipment, materials, location of work, costs, skill sets, health and safety considerations, environmental issues and supervising arrangements.
- Sourcing tools, equipment, materials, skill sets, e.g. internal workforce, external contractors.
- Processes and aids to planning tasks, including budgets, schedules and flow charts.
- The use of IT in raising and monitoring repair and maintenance tasks.
- Communications with contractors and employees to ensure efficient planning.

Learning aim B: Undertake estate skills and their management for the land-based sector

B1 Working safely

- Compliance with appropriate health and safety regulations and guidance, e.g. PPE, animal welfare.
- Selection of the correct tools, equipment and materials.
- Transportation of tools, equipment and materials.
- Preparation of the work area.
- Correct and safe use of tools and equipment.
- Waste disposal in accordance with regulations.
- Maintaining and storing tools, equipment and materials.

B2 Practical estates tasks

Maintenance, repair, construction and installation of:

- boundaries, to include post and rail fencing, hedgerows, electric fencing and strained fencing, e.g. stock or chain link fencing
- surfaces, to include aggregate or concrete, woodchip, wood, sand or artificial products, e.g. woodchip or grassed paths, forest access roads, ornamental paving
- structures, e.g. greenhouses, field shelters, gates, stalls, troughs, feeders, stiles, signage
- drainage, e.g. unblocking drains or field drains, clearing an open ditch
- isolation of mains services in the event of leaks or for maintenance, repair, construction and installation tasks
- basic repair of electrical appliances or circuits, e.g. changing a plug or fuse, resetting a circuit
- use of basic equipment to locate underground or hidden services
- installation of temporary electric supply for both indoor and outdoor power requirements, e.g. extension leads, electric fence batteries, small generators
- repair, maintenance or installation of systems to supply water, e.g. to a water trough, irrigation system or to allow a tap and hose to be connected to an existing system
- habitats, e.g. brush clearance, hedgerow cutting, construction of wildlife refuges.

B3 Reflecting on tasks undertaken

Process for reviewing the tasks undertaken to assess the impact on land-based management, to include:

- matching skills to tasks
- taking account of problems that arise and using problem-solving techniques
- comparing the time taken with the time allocated and the time needed
- identifying inefficient working practices
- monitoring actual costs against estimates and identifying cost overruns
- examining specifications to improve clarity and eliminate ambiguity
- monitoring compliance with regulations, guidance and advice notes
- assessing communication to identify improvements.

Learning aim C: Carry out the supervision of others engaged in maintenance, repair and installation tasks in the land-based sector

C1 Workforce supervision

- Identifying skill sets, e.g. internal workforce, external contractors.
- Communicating maintenance, repair, construction and installation needs to in-house teams and outside contractors, to include raising orders, issuing instructions orally and in writing, getting estimates and quotations, commissioning contractors and understanding contracts.
- Using written communication skills:
 - using correct spelling, punctuation and grammar
 - adopting different styles, including formal and informal.
- Using oral communication skills:
 - using tone, inflexion and style when speaking
 - using aids, e.g. maps and plans.

C2 Supervise estate skills undertaken

- Ensuring the work is proceeding according to expectations, e.g. site visits, problem solving and evaluating the progress of estate skills tasks, ensuring compliance with specifications, checking the progress of work against the specification, regulations and codes of practice and risk assessments.
- Using problem-solving skills to assess issues, examine alternative solutions, decide on a course of action, implement solutions and monitor outcomes.

C3 Evaluate estate skills tasks completed

Using evaluation frameworks to enable assessment of completed tasks and workforce management.

- Creating evaluation frameworks using details of the original specification as a checklist.
- Evaluating completed products, including compliance with specifications, regulations, and codes of practice and risk assessments.
- Communicating evaluation outcomes, ensuring correct task completion, including situations where there is a dispute.
- Creating evaluation frameworks for assessing workforce management, to include:
 - selection of workforce
 - communication of task
 - supervision of work in progress
 - application of problem-solving skills
 - feeding back on outcomes of task.

Assessment criteria

Pass	Merit	Distinction
Learning aim A: Explore estate skills for the management and maintenance of habitats and environments		
<p>A.P1 Explain findings of own surveys undertaken to establish estate skills needs.</p> <p>A.P2 Select information from the findings of own surveys undertaken to plan for the management of an estate skills task.</p>	<p>A.M1 Analyse the results of own surveys undertaken to produce a schedule for the management of estate skills tasks.</p>	<p>A.D1 Evaluate the likely impact of the schedule produced for the management of estate skills tasks resulting from own surveys undertaken.</p>
Learning aim B: Undertake estate skills and their management for the land-based sector		
<p>B.P3 Perform simple estate skills tasks to an agreed specification.</p> <p>B.P4 Explain how own estate skills tasks undertaken meet job specifications.</p>	<p>B.M2 Perform complex estate skills tasks to an agreed specification and within an agreed timescale.</p> <p>B.M3 Assess own performance in carrying out estate skills tasks to meet job specifications.</p>	<p>B.D2 Evaluate the standard of own estate skills tasks undertaken in relation to job specifications.</p>
Learning aim C: Carry out the supervision of others engaged in maintenance, repair and installation tasks in the land-based sector		
<p>C.P5 Demonstrate the management and supervision of a simple estate skills task.</p> <p>C.P6 Explain the effectiveness of own workforce supervision of an estate skills task.</p>	<p>C.M4 Demonstrate the management and supervision of a complex estate skills task.</p> <p>C.M5 Analyse the effectiveness of own workforce supervision of an estate skills task, identifying areas for improvement.</p>	<p>C.D3 Evaluate the effectiveness of own workforce supervision of a complex estate skills task, detailing improvements.</p>

Essential information for assignments

The recommended structure of assessment is shown in the unit summary along with suitable forms of evidence. *Section 6* gives information on setting assignments and there is further information on our website.

There is a maximum number of three summative assignments for this unit. The relationship of the learning aims and criteria is:

Learning aim: A (A.P1, A.P2, A.M1, A.D1)

Learning aim: B (B.P3, B.P4, B.M2, B.M3, B.D2)

Learning aim: C (C.P5, C.P6, C.M4, C.M5, C.D3)

Further information for teachers and assessors

Resource requirements

For this unit, learners must have access to:

- a range of common and specialist hand tools, including power tools and testing equipment
- suitable PPE
- a wide range of suitable estate skills tasks, including the provision of mains and temporary services.

Essential information for assessment decisions

Learning aim A

For distinction standard, learners will conduct surveys of land-based establishments. They will use a range of appropriate test equipment independently and proficiently. They will readily understand complex estate skills issues, considering causes and making connections with usage and consequences if unaddressed, exploring the situation thoroughly. Learners will present meticulous findings in the form of annotated maps, plans, diagrams and accompanying notes. They will be assured in their assessment of issues and their decisions in respect of repair, maintenance or installation needs.

Learners will produce comprehensive and flexible plans, reprioritising tasks where appropriate in order to use time and resources efficiently. Plans will include a detailed appraisal of work required and a thoroughly considered, time-specific schedule of work. Learners will give a clear rationale for all their recommendations, demonstrating detailed awareness of the influence of relevant governing legislation and codes of practice, and the impact on the establishment if the work is delayed or not completed. Job specifications produced will be comprehensive. Learners will show that they have considered how their plans will be effective in terms of, for example, use of resources, completion of tasks, meeting identified needs.

For merit standard, learners will conduct surveys of land-based establishments. They will use a range of appropriate test equipment safely and without supervision. They will interrogate the causes of issues, suggesting remedial action and, where appropriate, prevention in relation to repair, maintenance or installation needs. They will explore the complexity of faults and issues, considering less obvious factors. Learners will present detailed findings in the form of annotated maps, plans, diagrams and accompanying notes.

Learners will plan proactively with clear timescales for repair, maintenance and installation needs. Their plans will clearly demonstrate an understanding of the need to prioritise work, and an appreciation of realistic timescales and resources. Their planning will demonstrate a detailed assessment of the work required and a time-specific schedule of work. Consideration will be given to relevant governing legislation and codes of practice. Job specifications produced will be clear and detailed.

For pass standard, learners will conduct surveys of land-based establishments. They will use a range of appropriate test equipment, under supervision where necessary. Learners will understand major issues and correctly identify methods of repair, maintenance or installation. They will record correct findings appropriate to each situation surveyed, presenting the information in the form of annotated maps, plans, diagrams and accompanying notes. The notes and annotations will give clear reasoning for their findings.

Learners' plans will address key repair, maintenance and installation needs, correctly prioritising works using broad timescales. Where appropriate, their plans will take into account governing legislation and codes of practice. Job specifications produced will contain key information.

Learning aim B

For distinction standard, learners will carry out complex tasks that require multiple operations, using appropriate equipment and a variety of tools and materials. Tasks will be undertaken efficiently, accurately and completely, meeting the specification. Learners will work to a professional industry standard and they will comply with best workplace practice.

Learners will review the qualitative standard of practical work undertaken to improve the completion of tasks, supporting their views with reasoned judgements.

For merit standard, learners will carry out complex tasks that require multiple operations, using appropriate equipment and a variety of tools and materials. Tasks will be undertaken efficiently, accurately and completely, meeting the specification. Learners will work to the standard of a competent employee. They will carry out complex tasks that require the installation, maintenance or repair of boundaries, surfaces, habitats and either mains or temporary services.

Learners will demonstrate best workplace practice by working safely and in accordance with relevant legislation, ensuring the workplace is prepared and cleared. They will understand the need for, and demonstrate, correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage.

Learners will review their work in light of the job specification and the standard achieved, giving valid suggestions for improvements in tasks.

For pass standard, learners will carry out simple estate skills tasks, requiring few operations and a limited range of tools and materials. Tasks will be undertaken efficiently, accurately and completely, meeting the specification. They will work to the standard of a novice employee. Learners will carry out simple tasks that require the installation, maintenance or repair of boundaries, surfaces, habitats and either mains or temporary services.

Learners will demonstrate acceptable workplace practice by working safely and in accordance with relevant legislation, ensuring the workplace is cleared after task completion. They will demonstrate correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage.

Learners will review their work in light of the job specification.

Learning aim C

For distinction standard, learners will carry out effective and comprehensive workforce supervision that demonstrates clear, concise, unambiguous, oral and written communications suited to the recipient, such as contractors or colleagues.

Learners will delegate responsibilities appropriately according to skill sets and resources. They will monitor and assess task progression, advising only when necessary, using positive and flexible problem-solving skills when needed. They will assess the completed task against the specification and communicate their findings concisely and assertively.

Learners will draw up a valid and reliable evaluation framework to use when assessing their management of completed tasks. They will identify specific areas where their management of the task could have improved efficiency, safety or cost-effectiveness, and will make valid recommendations that would achieve this.

For merit standard, learners will demonstrate they can communicate clearly and appropriately with a workforce, such as contractors or colleagues, both orally and in writing.

Learners will delegate responsibilities. They will accurately assess the progress of a complex task and demonstrate problem-solving skills when needed. They will communicate appropriately their assessment of the progress of a task.

Learners will draw up an accurate evaluation framework to use when assessing workforce management. They will make recommendations for improvements in their own performance.

For pass standard, learners will demonstrate that they can issue simple workforce instructions, both orally and in writing.

Learners will carry out supervision of tasks, including checks on progress and identifying obvious issues that may hinder task completion to the specification. Where problems occur, learners will make suggestions and may intervene directly. Learners will provide basic feedback to the workforce on the progress of the task.

Learners will draw up a simple evaluation framework to use when assessing their management of the workforce, identifying their own strengths and weaknesses.

Links to other units

This unit links to *Unit 4: Work Experience in the Land-based Sectors*.

Employer involvement

This unit would benefit from employer involvement in the form of:

- masterclasses
- technical workshops involving staff from local land-based organisations
- contribution of ideas to unit assignment/project materials
- observation during work experience
- support from local land-based organisation staff as mentors.

Unit 8: Land-based Machinery Operations

Level: **3**

Unit type: **Internal**

Guided learning hours: **60**

Unit in brief

Learners develop skills in the safe operation of machines used in the land-based sectors, including carrying out pre-start checks, basic maintenance and repair, and actual operation.

Unit introduction

Machines are used throughout the land-based sectors for a range of purposes, including transport and powering or pulling other equipment. The correct selection, maintenance and use of machinery are extremely important to the success of all enterprises and sustainable working practices.

In this unit, you will explore machines relevant to your particular sector of the industry, developing practical skills and understanding of the different conditions in which machinery might need to operate. You will learn how to carry out pre-start checks and maintenance on these machines as well as the safe use and operation of the machine for a variety of tasks. The skills and knowledge gained in this unit will help you to manage the potential dangers involved in operating land-based machinery, and enable you to carry out tasks in a way that prioritises safety and consideration of environmental impact.

This unit will support your progression to employment in the land-based sectors in a role such as machinery operations assistant and assistant technician, or to further study in an apprenticeship or higher education.

Learning aims

In this unit you will:

- A** Investigate the types, purpose and safe operation of land-based machinery
- B** Operate land-based machinery safely to complete a practical task
- C** Maintain land-based machinery safely in order to sustain its effectiveness.

Summary of unit

Learning aim	Key content areas	Recommended assessment approach
A Investigate the types, purpose and safe operation of land-based machinery	A1 Types of machine and their purpose A2 Principles of operation A3 Range of conditions in which machinery may be operated A4 Health and safety considerations	A report examining machinery types, their uses and operation for a relevant sector of the land-based industries.
B Operate land-based machinery safely to complete a practical task	B1 Preparation B2 Operation	Evidence of safe completion of practical tasks that include the preparation and operation of a suitable machine to achieve the task being carried out.
C Maintain land-based machinery safely in order to sustain its effectiveness	C1 Maintenance C2 Servicing and repair	Evidence of a machine being checked before and after use, and maintenance requirements being identified. A report evaluating the effectiveness of the preparation, routine maintenance and repair carried out, and the options available to do this.

Content

Learning aim A: Investigate the types, purpose and safe operation of land-based machinery

A1 Types of machine and their purpose

The types of machine available and the purposes for which they are used in the land-based sector.

- Types of machine:
 - tractors, including two- and four-wheel-drive systems, track-layers
 - utility vehicles
 - all-terrain vehicles (ATVs)
 - special purpose vehicles, e.g. self-propelled harvesters or mowers, material handlers
 - pedestrian-operated and hand-held machines.
- Adaptations for different purposes, including working on slopes, inside buildings and on soft or unfirm ground.
- Purposes of machines:
 - transport of goods and people
 - estate maintenance, e.g. brush cutters, hedge cutters, flails
 - pulling other equipment, e.g. trailers, mowers
 - powering attached equipment via external services, e.g. powered cultivators, mowers
 - excavation, e.g. trenching, ditching, landscaping
 - application of materials, e.g. seed, organic material, fertiliser and plant protection products.

A2 Principles of operation

- Available power sources:
 - engines, to include spark ignition, two- and four-stroke cycle, compression ignition, four-stroke and electric motors
 - fuels, to include petrol, diesel, liquid petroleum gas (LPG), biofuels and electricity, including single phase, three phase and battery
 - potential environmental impact of different engine types.
- Drive systems:
 - belts, chains and gearboxes:
 - their characteristics and use
 - advantages and disadvantages
 - hydrostatic systems:
 - their characteristics and use
 - advantages and disadvantages
 - two- and four-wheel-drive systems
 - different and equal-size wheels.
- Machine layout, design and safety features:
 - location of controls for powered machines, e.g. on/off switches, brakes, clutch, throttle/accelerator, gear lever, lights and indicators, operating sequences, emergency stop mechanisms
 - access, including doors, steps, protective covers and guards
 - aspects of sustainability relevant to machine design and layout, e.g. fuel type, fuel efficiency, emissions, noise pollution, and lubrication.
- Ancillary equipment:
 - hitches to attach trailed equipment, e.g. pick-up hitches, clevis drawbars
 - three-point linkage to attach mounted or semi-mounted equipment, e.g. ploughs, mowers and cultivators
 - external services, e.g. electrical, power take-off (PTO), shafts, hydraulics.

- Machine safety features and procedures:
 - safe operating procedures, e.g. starting the machine when it is out of gear, starting the machine with the operator in the driving position
 - safety features to prevent starting of the machine, e.g. out of gear, being on seat, depressed clutch
 - engine stop, e.g. key and fuel cut off
 - access, to include steps and guards
 - other safety features, e.g. anti-reverse for working pedestrian rotary tillers, safety cabs or frames, seat belts.

A3 Range of conditions in which machinery may be operated

- In the field or on site:
 - slopes
 - size of field/working area and topography
 - soil types and ground conditions
 - access.
- Weather and seasonality:
 - drought, wet, rain, snow, normal conditions
 - tasks in relation to time of year and seasons.

A4 Health and safety considerations

Health and safety aspects relevant to the use of machinery in land-based sectors.

- Legislation relevant to the use of land-based machinery:
 - regulations regarding the permission and competence required to carry out certain land-based operations, including:
 - minimum driver age limits
 - Lifting Operations and Lifting Equipment Regulations (LOLER) and Provision and Use of Work Equipment Regulations (PUWER)
 - ‘on the road’ use of machinery
 - certificates of competence, e.g. spraying, material handling.
- Self-protection and protection of others:
 - Health and Safety at Work etc. Act 1974
 - personal protective equipment (PPE), e.g. safety boots, goggles, overalls, gloves
 - safe systems of work, use of manuals, safe use of controls and cut-outs
 - risk assessments
 - manual handling techniques.
- Potential consequences of not complying with health and safety requirements, such as:
 - injury to self and others
 - prosecution
 - invalidating insurance
 - ineffective and inefficient machines.

Learning aim B: Operate land-based machinery safely to complete a practical task

B1 Preparation

Preparing and checking machines before use and operation.

- Daily checks, adjustment, attachments, lubrication.
- Resources, to include consumables:
 - lubricants
 - cleaning agents, rags and towels
 - variety of tools
 - benches or workshop area.

- Use of PPE.
- Setting up of machine, e.g. position, mixed or draft control, guarding, setting maximum height or depth, working height or depth.

B2 Operation

Operation of relevant machinery in a field or site location.

- Pre-start checks, to include oil, fuel, water, ancillary fittings, tyres, visual checks, lights – where applicable.
- Attachment of equipment, e.g. trailer, link box, mower, spreader or cultivation equipment.
- In-field use, to include starting and stopping, work method, control of attached equipment, forward speed.
- Safe working procedures, e.g. knowledge of operator manual, safe mounting of and dismounting from machine, stopping machine to carry out adjustments and in-field maintenance.
- Aspects of sustainability relevant to machinery operation, e.g. use of energy-saving mode, correct gear and engine speed selection.

Learning aim C: Maintain land-based machinery safely in order to sustain its effectiveness

C1 Maintenance

Carrying out routine operator maintenance.

- Use of operator manuals.
- Understanding service intervals.
- Adjustments of drive devices, e.g. tension chains or belts.
- Checking of tyre pressures.
- Checking of liquids, e.g. fuel, coolant and oil levels, battery electrolyte level.
- Checking of guards for overall fitness for purpose and security of fittings.
- Checking of air filters.

C2 Servicing and repair

- Available options for carrying out servicing and repairs:
 - dealership services
 - in-house servicing and repairs by own mechanic
 - repairs in non-dealership workshop.
- Advantages and disadvantages of the different options for carrying out servicing and repairs, e.g. availability, time, warranty and cost.
- Understanding warranties, their advantages and disadvantages.
- Cost-effectiveness of servicing and repair, routine maintenance and maintenance intervals.
- Identifying faults and problems that require servicing and repair:
 - wear and tear, e.g. worn transmission and steering components, tyres, cutting blades, tines, knives, spark plugs, injectors, blocked filters
 - use of manufacturer part numbers and machine identification
 - health and safety issues, including loose, worn and missing guards.
- Carrying out simple servicing and repair:
 - use of operator's manual
 - renew oils
 - clean or renew filters
 - adjustments, e.g. tensions, pressures
 - maintain and update records of work
 - relevant repairs, e.g. replacement of belts, tines, blades, battery replacement, spark plug or injector replacement, guard replacement
 - recycling or disposing of waste materials and parts in line with accepted practice, e.g. recycling of waste oil, recycling of tyres, use of exchange parts and return.

Assessment criteria

Pass	Merit	Distinction
Learning aim A: Investigate the types, purpose and safe operation of land-based machinery		A.D1 Justify the selection of different types of land-based machinery for a given land-based task.
<p>A.P1 Explain the purpose and operation of different types of land-based machine.</p> <p>A.P2 Explain the health and safety requirements in the operation of land-based machinery.</p>	<p>A.M1 Compare the principles of operation of different types of selected land-based machine.</p> <p>A.M2 Analyse the importance of health and safety requirements in the operation of land-based machinery.</p>	
Learning aim B: Operate land-based machinery safely to complete a practical task		B.D2 Evaluate own operation of land-based machinery against given objectives.
<p>B.P3 Safely prepare selected land-based machinery for work.</p> <p>B.P4 Safely operate simple land-based machinery to meet given objectives.</p>	B.M3 Efficiently use complex land-based machinery to meet given objectives.	
Learning aim C: Maintain land-based machinery safely in order to sustain its effectiveness		C.D3 Evaluate the effectiveness of techniques used to carry out routine maintenance and repair, and the options available to do this.
<p>C.P5 Explain the options available for the servicing and repair of land-based machinery.</p> <p>C.P6 Safely carry out routine operator maintenance and appropriate repairs for a chosen land-based machine.</p>	<p>C.M4 Assess potential faults on a given land-based machine, using manufacturer's data to specify replacement items during servicing and repair.</p> <p>C.M5 Carry out efficient routine operator maintenance and appropriate repairs for a chosen land-based machine.</p>	

Essential information for assignments

The recommended structure of assessment is shown in the unit summary along with suitable forms of evidence. *Section 6* gives information on setting assignments and there is further information on our website.

There is a maximum number of three summative assignments for this unit. The relationship of the learning aims and criteria is:

Learning aim: A (A.P1, A.P2, A.M1, A.M2, A.D1)

Learning aim: B (B.P3, B.P4, B.M3, B.D2)

Learning aim: C (C.P5, C.P6, C.M4, C.M5, C.D3)

Further information for teachers and assessors

Resource requirements

For this unit, learners must have access to:

- a range of common and specialist hand tools, including power tools and testing equipment
- suitable PPE
- a range of prime movers, including tractors and ride-on mowers and transporters
- a range of compatible attachments, including trailers and three-point linkage mounted equipment
- a flat, level site on which to operate
- basic workshop facilities, including vices, benches, fuels and lubricants.

Essential information for assessment decisions

Learning aim A

For distinction standard, learners will thoroughly investigate the machines available to a relevant sector of the land-based industry and fully justify the selection of two different types of machine for given tasks in a way that is logical, coherent and considers all relevant factors. The task will require the selection of some form of ride-on prime mover such as a tractor, haulage/transport vehicle or ride-on machine such as a mower. Evidence will display the accurate use of relevant terminology throughout to support a considered, well-reasoned response. Learners will make insightful references to the role of health and safety in the selection of different types of machines. Learners will meticulously investigate the problems associated with different conditions of use, produce robust, convincing solutions to these problems and make comprehensive, accurate references to relevant aspects of health and safety and sustainability.

For merit standard, learners will provide a clear, balanced review of the principles of operation of land-based machines and report on the principles of operation of two different machines for given tasks in the land-based sector. The task will require the selection of some form of ride-on prime mover such as a tractor, haulage/transport vehicle or ride-on machine such as a mower. The evidence provided will be technically accurate and compare clearly the principles of operation of the two machines. The solutions given by learners will be efficient and suitable. Clear and relevant consideration will be given to aspects of health and safety and sustainability. Learners' evidence will show relevant and accurate analysis of each machine and make use of appropriate technical language. Learners will explore the problems caused by different conditions and provide relevant justifications of their design solutions. Learners will provide a balanced, clear analysis of the importance of health and safety requirements in machine operation.

For pass standard, learners will examine the machines available to the land-based sectors and explain the selection of two different machines for given tasks. The task will require the selection of some form of ride-on prime mover such as a tractor, haulage/transport vehicle or ride-on machine such as a mower. Most of the evidence will be technically accurate and relevant. Learners will report on the suitability of the machines for a range of conditions. Their response might be limited in scope or unbalanced in parts but will be mostly appropriate, including realistic, specific references to health and safety, and limited but appropriate references to sustainability.

Learning aim B

For distinction standard, learners will evaluate the qualitative standard of practical work undertaken to achieve the completion of tasks against the given objectives, which include meeting relevant health and safety requirements. Learners will support their views with well-reasoned, convincing judgements. Learners will provide specific, well-selected evidence to show how and why their work meets the given requirements, making logical, robust connections between their performance and the given brief.

Learners will demonstrate use of complex machinery, requiring multiple operations and use of appropriate equipment. The evidence will include the use of power take-off (PTO)-powered three-point linkage mounted equipment. Tasks will be undertaken efficiently, accurately and completely, meeting the specification requirements. Learners will work safely to a professional industry standard and they will comply with best workplace practice at all times.

For merit standard, learners will safely carry out tasks involving complex machinery that requires multiple operations, using appropriate equipment and a variety of tools and materials. Learners will demonstrate the use of PTO-powered three-point linkage mounted equipment. Learners will show clear evidence of both preparing and operating complex land-based machinery to meet given objectives. Tasks will be undertaken efficiently, accurately and completely, meeting the specification requirements. Learners will work to the standard of a competent employee.

Learners will demonstrate best workplace practice by working safely and in accordance with relevant legislation, ensuring the workplace is prepared and cleared. They will understand the need for, and demonstrate, correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage.

For pass standard, learners will undertake tasks competently, safely and completely, meeting the specification requirements. Learners will safely prepare and operate simple land-based machines such as ride-on mowers and tractors for haulage. They will work to the standard of a novice employee.

Learners will demonstrate acceptable workplace practice by working safely and in accordance with relevant legislation, ensuring the workplace is cleared after task completion. They will demonstrate mostly correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage.

Learners will show a realistic understanding of how different operator techniques may be used, although some aspects of their understanding might be limited in scope.

Learning aim C

For distinction standard, learners will review thoroughly the effectiveness of the techniques and workshop practices used to undertake the completion of tasks, supporting their views with well-reasoned judgements that cover all relevant factors. Learners will evaluate and report on how the techniques and practices used resulted in routine operator maintenance and repair being undertaken efficiently, accurately and completely. Learners will similarly provide an in-depth evaluation of the options available to carry out routine operator maintenance and repair, providing specific reasons that link logically to their views. Learners will dispose of any waste materials in a manner that fully complies with accepted practices and which shows full regard for the concepts and practices of sustainability. Evidence will use relevant and accurate terminology throughout, which supports a considered, comprehensive response.

For merit standard, learners will undertake tasks efficiently, accurately and completely, meeting the specification. Learners will proficiently, without errors, carry out routine maintenance and repair tasks, using appropriate equipment and a variety of tools and materials. They will work to the standard of a competent employee.

Learners will demonstrate best workplace practice by working safely and in accordance with relevant legislation, ensuring that the workplace is prepared and cleared. They will understand the need for, and demonstrate, correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage. Learners will dispose of any waste materials in a manner that fully complies with accepted practices.

Learners will demonstrate clear understanding of the options for repair and maintenance by correctly assessing and reporting on potential faults in a machine and using the manufacturer's data to correctly specify replacement parts. Learners' assessment will be clear and technically accurate. They will use appropriate technical language in their evidence but this may be inconsistent.

For pass standard, learners will demonstrate that they can work safely and completely, meeting the specification requirements. There may, however, be a few minor inaccuracies or inefficiencies. They will carry out simple routine operator maintenance tasks, requiring few operations and a limited range of tools and materials. They will work to the standard of a novice employee.

Learners will demonstrate acceptable workplace practice by working safely and in accordance with relevant legislation, ensuring that the workplace is cleared after task completion. They will demonstrate correct tool, material and equipment procedures, including selection, use, transport, maintenance and storage. Any waste materials will be disposed of in line with acceptable working practices.

Learners will give realistic but limited explanations of the options available for the servicing and repair of machinery, using some technical language.

Links to other units

This unit links to Unit 1: Professional Working Responsibilities.

Employer involvement

This unit would benefit from employer involvement in the form of:

- masterclasses
- technical workshops involving staff from local land-based organisations
- contribution of ideas to unit assignment/project materials
- observation during work experience
- support from local land-based organisation staff as mentors.

Unit 28: Applied Agricultural Farming Practice

Level: **3**

Unit type: **Internal**

Guided learning hours: **120**

Unit in brief

Learners develop knowledge and skills relating to crop production and farm livestock systems in order to develop a farm management plan.

Unit introduction

Successful farm production requires careful consideration of resources, a broad knowledge of professional farm working practice and well-developed practical skills in crop production and animal husbandry. Being able to independently select and apply knowledge and skills for farm production is essential for anyone working in the agriculture sector.

In this unit, you will produce a farm practice management plan that aims to develop farm productivity levels. You will draw on your broader knowledge and understanding of agricultural practice, along with new specialist knowledge and skills developed in this unit relating to crop production, and livestock production and husbandry. Your management plan will consider all aspects of the production cycle, including animal welfare, nutrition and handling, crop maintenance, harvesting and storage, and it will identify opportunities and suggest strategies for improving productivity.

This unit includes the key vocational assessment task of evaluating farm practices and developing a farm practice management plan aiming to achieve optimum productivity levels. You will need to select and apply knowledge and skills developed in your study of the mandatory content and your wider learning from across the programme. You will select and apply your knowledge and skills from *Unit 1: Professional Working Responsibilities*, *Unit 5: Estate Skills* and *Unit 8: Land-based Machinery Operations*. You will also use your experience of real work practices in the sector from *Unit 4: Work Experience in the Land-based Sectors*.

This unit will give you the skills to independently manage farm production of crops and animals in a professional way. These skills will give you an advantage in progressing to employment in a role such as general farm worker, livestock assistant or assistant crop trials officer. The skills will also help you to progress to general employment in a mixed farming setting and to further study in an Apprenticeship or higher education.

Learning aims

In this unit you will:

- A** Explore and maintain healthy crop production
- B** Investigate livestock systems and perform animal husbandry tasks
- C** Review farm practice and opportunities for production
- D** Produce a farm practice management plan to develop farm productivity levels.

Summary of unit

Learning aim	Key content areas	Recommended assessment approach
A Explore and maintain healthy crop production	A1 Crop plants and their products A2 The principles of crop establishment and cultivation A3 The principles of maintaining healthy crops A4 Safe harvesting and storage of crops	A portfolio of evidence on the practical production of crops including: preparation, maintenance, harvest and storage.
B Investigate livestock systems and perform animal husbandry tasks	B1 Farm livestock types and breeds B2 Livestock production systems B3 Managing the welfare of farmed livestock	A portfolio of evidence on the practical husbandry of livestock including: handling, feeding and nutrition.
C Review farm practice and opportunities for production	C1 Agricultural practice parameters for evaluation C2 Evaluating farm needs and opportunities	A written or presented farm practice evaluation and management plan, supported by a farm audit.
D Produce a farm practice management plan to develop farm productivity levels	D1 Farm practice management plan	

Content

Learning aim A: Explore and maintain healthy crop production

Learners develop knowledge of the characteristics and purpose of crop species grown commercially.

A1 Crop plants and their products

- Annual, biennial, perennial crops.
- Identifying crop types, including:
 - cereals, e.g. wheat, barley, oats, rye, triticale
 - oilseeds, e.g. oilseed rape, linseed
 - forage crops, e.g. grass, maize
 - root crops, e.g. sugar beet, fodder beet, potatoes
 - vegetable crops, e.g. brassicas, salad crops
 - legumes and pulses, e.g. peas, beans
 - fruit, e.g. top, soft
 - minor and specialist crops, e.g. miscanthus, borage, canary seed.
- Selection of cultivars for different production needs.

A2 The principles of crop establishment and cultivation

Learners will investigate the requirements for successful foundations of crop growth and determine the different types of cultivation used in crop production.

- Target populations, seed rates and plant spacing.
- Timing of establishment, e.g. autumn or spring.
- Crop establishment systems.
- Cultivation and establishment machinery.
- Crops rotations and cropping sequence.
- Seedbed conditions, planting depth and the importance of seed-soil contact.
- Seed dressings.
- Climate, topography and soil type.

A3 The principles of maintaining healthy crops

- Recognising growth and development stages.
- Control of weeds, pests and diseases including:
 - cultural, physical, chemical and biological control
 - effect on yield and quality.
- Crop nutrient requirements and calculating plant nutrient requirement, including:
 - major nutrients (nitrogen, phosphate, and potassium [potash], sulfur, magnesium)
 - minor and trace elements, e.g. boron, manganese.
- Recognising crop nutrient deficiencies.
- Soil management, e.g. waterlogging, nutrient levels, soil pH.
- Sources of plant nutrients, including:
 - organic fertilisers
 - inorganic fertilisers.
- Specific current relevant legislation and codes of practice relating to crop production.
- Manipulating plant growth, e.g. plant growth regulation, planting timings.
- Ripening and crop maturity.
- Crop protection methods, e.g. plastic, polytunnel.

A4 Safe harvesting and storage of crops

Learners will investigate all aspects of the crop production cycle, from establishment and crop nutrition through to harvesting and storage.

- Pre-harvest management, e.g. desiccation, dehauling.
- Harvesting methods for combinable crops, fresh crops and manual harvesting.
- Health and safety considerations in the crop store, including:
 - contact with dust, prevention of illnesses, e.g. farmer's lung
 - personal protective equipment (PPE) requirements
 - potential hazards.
- Key aspects in safe storage of fresh and dry products, including:
 - methods of conditioning crops in store and the use of additives
 - effect of storage on crop quality, e.g. temperature control
 - control of storage pests, diseases and vermin
 - food safety requirements, e.g. assurance schemes
 - storage timings, e.g. short term, long term, cooperative storage.
- Store hygiene monitoring.
- Crop segregation and the reasons why crops are segregated.
- On-farm use of crops and crop by-products.

Learning aim B: Investigate livestock systems and perform animal husbandry tasks**B1 Farm livestock types and breeds**

Learners will examine the characteristics and purposes of livestock breeds in the UK, including native and imported.

- Sheep for food, wool and by-products, including pure-bred and cross-bred sheep, e.g. Border Leicester, Suffolk, Jacob, Lincoln Longwool, Texel, Charolais.
- Pigs for food and by-products, including hybrid and pure breeds, e.g. Tamworth, Saddleback, Gloucestershire Old Spot, Large White, Landrace, Duroc.
- Poultry for meat, eggs and by-products, hybrid and pure breeds, e.g. Buff Orpington, Araucana, Legbar, Faverolles, Aylesbury ducks.
- Cattle for beef, dairy, and by-products, e.g. Hereford, Red Poll, Longhorn, Angus, Welsh Black, Galloway, Jersey, Limousin.
- Goats for milk, meat and by-products, including hybrid and pure breeds, e.g. Bagot, British Toggenburg, Golden Guernsey, Angora and British Primitive goats, Saanens.
- Unconventional livestock diversification, e.g. ostriches for meat, alpacas for fleece.

B2 Livestock production systems

Learners will understand the different types of production systems in the UK such as intensive, organic, semi-intensive, extensive and mega-farming, and will know the different categories in each system.

- Variety and characteristics of common production systems for common livestock and standards of welfare and quality of product produced:
 - poultry (broilers, laying hens)
 - cattle (beef and dairy)
 - pigs (breeding stock, pork, bacon, heavy pigs, alternative breeds)
 - sheep (lowland, upland, hill)
 - fish (extensive and intensive).
- Class of stock, ages of stock, length of time animals are in production cycle.

B3 Managing the welfare of farmed livestock

Learners will understand the relationship between high levels of animal welfare, and a well-run productive business; including the key requirements for feeding and housing livestock.

- Feeding and watering:
 - feed types, straights, blends, compound feed, concentrates, forage and fodder
 - hay, haylage, silage and straw production
 - nutrient requirements for farm species
 - palatability of feeds and impact on behaviour
 - feeding and watering equipment from protocols for livestock species, including:
 - automatic drinkers
 - troughs, buckets, feeders, racks and automated systems
 - developing productive feeding protocols for livestock species to maximise the value of the animal, including:
 - storage of feeds, including regulations and practical considerations
 - preparation of feed
 - hygiene
 - personal protective equipment (PPE).
- Accommodation considerations, including:
 - design and maintenance of indoor and outdoor accommodation, and the impact on animal welfare, including size, space, ventilation and security
 - legislation and codes of practice specific to accommodation, including:
 - space allocations
 - the Five Freedoms
 - disposal of waste:
 - organic, e.g. manures
 - inorganic, e.g. feed bags.
- Animal handling, including:
 - practical handling, restraining and equipment use such as tethers, halters, ropes, bull poles, pig boards, paddles, flat slap sticks, electric fencing, crushes, yoke units, pens, hurdles, crates, cattle races
 - use of weighing scales
 - practical techniques of handling and restraining in different locations, including:
 - safe use of equipment
 - correct restraining methods for size of animal
 - loading and unloading
 - safety considerations and risk management.

Learning aim C: Review farm practice and opportunities for production

In undertaking the key vocational task of reviewing, evaluating and planning the management of farm practices, learners must select and apply learning from *Unit 1: Professional Working Responsibilities*, *Unit 5: Estate Skills*, *Unit 8: Land-based Machinery Operations* and *Unit 4: Work Experience in the Land-based Sectors*.

C1 Agricultural practice parameters for evaluation

Learners reflect on their application of crop production and animal husbandry skills, and consider opportunities for their professional and practical development of farming skills.

- Parameters for evaluating the impact of professional practice on farm production, including:
 - following processes and procedures
 - the impact of waste management on farm products
 - use of equipment and the impact on farm products
 - response to risks and hazards
 - maintaining the standards and meeting the quality requirements for farm assurance schemes

- the impact of knowledge of the business and or/environment on practice
- the impact of communication and reporting on productivity
- completion of activities and cooperation when working with crops and animals
- management of own role, responsibility and reliability
- ongoing reflection and use of feedback to inform development
- self-assessment techniques.
- Use of ongoing assessment during practice, including:
 - visual health assessments
 - behavioural assessments, including species-specific behaviour, patterns, interaction with other animals
 - recognising healthy and unhealthy crops, e.g. crop growth stages
 - recognising growth and development stages
 - recognising crop nutrient deficiencies
 - use of remedial action.
- Farm production monitoring, including:
 - yield, tonnes per hectare (t/ha)
 - visual and routine inspection of quality
 - quality of produce
 - slaughter weight
 - breeding records
 - veterinary medicine use impact
 - store hygiene monitoring
 - test results for accuracy, e.g. soil tests, milk testing.

C2 Evaluating farm needs and opportunities

- Audit and inventory of farm productivity, including:
 - current levels of productivity, e.g. output per hectare
 - infrastructure assessment, e.g. buildings and machinery, location
 - resource inventory, land, buildings, cropping and livestock numbers
 - quality review of current products
 - processes and aids to planning activities, including technology, budgets, schedules and flow charts
 - assessing ranges and quantities, e.g. use of maps, diagrams, plans, measurements, estimates
 - SWOT analysis, including:
 - unique features, point of difference
 - organisational characteristics
 - staffing
 - resources
 - capacity of land or facilities, soil type and fertility level
 - developments in market trends
 - changes in social patterns, populations and lifestyle changes
 - new emerging technology
 - government policy changes
 - local competitors
 - introduction of quality standards and specifications
 - competition
 - internal factors
 - external factors.

Learning aim D: Produce a farm practice management plan to develop farm productivity levels

D1 Farm practice management plan

- Aims and objectives of plan, covering:
 - identifying the plan
 - reasons for conducting the plan
 - legitimacy of the plan.
- Land, building or facilities required:
 - soil type, topography and cropping
 - buildings and accommodation.
- Pest and disease strategy, covering:
 - pest problems, threshold levels, current issues.
- Fertiliser and feeding strategies:
 - fertiliser nutrition strategy:
 - legislative considerations, e.g. Nitrate Vulnerable Zones (NVZ) areas
 - fertiliser sources, e.g. natural, artificial
 - Animal feeding:
 - feeding for growth.
- Accommodation strategy:
 - indoor systems, e.g. buildings
 - outdoor systems, e.g. land space and field use.
- Waste strategy:
 - disposal of waste products, including recycling and reusing.
- Equipment required, sources and suppliers' materials and supplies, including:
 - feed supplier
 - animal health product supplier
 - seed supplier
 - fertiliser supplier.
- Schedule, e.g. 1-, 2- and 3-year plan, regular tasks, one-off task.
- Quality parameters, including:
 - animals, e.g. carcass conformation
 - crops, e.g. moisture, protein, admixture.
- Maintenance plan for facilities and equipment:
 - regular maintenance, e.g. boundaries, roofing and structural work.
- Production strategy, e.g. specialisation, capacity expansion, integration of processing, diversification.
- Regulations and licensing, including:
 - application of pesticides, certificates of competence, e.g. PA1, PA2
 - sources of certified seed, UFAS certification
 - ethical and moral considerations
 - animal welfare
 - recommended codes of practice
 - legislation, e.g. Animal Welfare Act 2006
 - certificates of competency, e.g. safe use of veterinary medicines.
- Risk assessments for human and animal welfare, including:
 - assessing risks and identification of hazards, e.g. animals, equipment and people
 - minimising the impact of hazards, including legislative responsibilities.

- Inspection and auditing frequency, type and recording strategy, including:
 - farm assurance schemes
 - Red Tractor schemes
 - regular inspection and monitoring of crops for weeds, pests and diseases
 - daily checking of livestock
 - remedial action.

Assessment criteria

Pass	Merit	Distinction
Learning aim A: Explore and maintain healthy crop production		A.D1 Evaluate and justify the effectiveness and efficiency of crop production practice and the impact of crop management and storage on the productivity and quality of the system.
A.P1 Explore the characteristics of different crops, key requirements for crop establishment and cultivation methods. A.P2 Safely carry out crop monitoring, harvesting and storage of a given crop to promote healthy crops.	A.M1 Analyse the parameters that influence the production, quality and yield of crops. A.M2 Apply competent management principles for the production of healthy crops, including remedial action.	
Learning aim B: Investigate livestock systems and perform animal husbandry tasks		B.D2 Effectively practise animal husbandry, showing confident understanding of the factors that impact welfare and quality of produce through review of own performance.
B.P3 Assess the characteristics of different production systems, their breeds and products, considering the impact on welfare. B.P4 Apply appropriate nutritional practice for livestock, based on investigation of nutritional requirements for farm livestock and the relationship to quality produce. B.P5 Select and apply safe and appropriate handling and restraining techniques, and use of equipment to maintain the welfare of livestock.	B.M3 Analyse the factors that determine the quality of livestock in the production system for farm livestock within own practice. B.M4 Demonstrate efficient and correct handling and restraining techniques while maintaining livestock health and welfare.	
Learning aim C: Review farm practice and opportunities for production		
C.P6 Assess for signs of impact on welfare, health and deficiency of agricultural products within own practice. C.P7 Appropriately inspect the suitability of a farm production process to increase productivity.	C.M5 Carry out effective farm production monitoring systems with a high degree of accuracy, evaluating the impact of farming practice on productivity.	CD.D3 Produce a feasible and effective farm production management plan and justify how decisions will increase productivity, based on critical evaluation of agricultural farming practice.
Learning aim D: Produce a farm practice management plan to develop farm productivity levels		
D.P8 Produce an appropriate farm production management plan that selects and applies farm practice skills.	D.M6 Produce a competent farm production management plan, based on inspection, assessment and comparison of current farm production.	

Essential information for assignments

The recommended structure of assessment is shown in the unit summary along with suitable forms of evidence. *Section 6* gives information on setting assignments and there is further information on our website.

There is a maximum number of three summative assignments for this unit. The relationship of the learning aims and criteria is:

Learning aim: A (A.P1, A.P2, A.M1, A.M2, A.D1)

Learning aim: B (B.P3, B.P4, B.P5, B.M3, B.M4, B.D2)

Learning aims: C and D (C.P6, C.P7, D.P8, C.M5, D.M6, CD.D3)

Further information for teachers and assessors

Resource requirements

For this unit, learners must have access to:

- farm livestock
- animal handling equipment
- a range of crops for regular inspection
- crop storage facilities
- personal protective equipment
- livestock weighing scales.

Essential information for assessment decisions

Learning aim A

For distinction standard, learners will articulate arguments confidently and effectively to evaluate the suitability of crop production systems, including annual, biennial and perennial cropping systems, giving detailed lines of reasoning and justifications for decisions made. Learners will demonstrate a broad insight into the factors affecting the crop system and show an effective level of skill for crop maintenance and management, based on ongoing and reflective observation and evaluation. Learners will give a detailed rationale covering the characteristics and purpose of crop production, including establishment, crop health and storage of crops. Learners will offer consistently valid, well-chosen examples that support their views. The evidence will show confident use of accurate agricultural terminology and principles throughout.

For merit standard, learners will carefully consider the suitability of crop production systems, including annual, biennial and perennial cropping systems. They will analyse the parameters involved and the influence they have on production systems. Learners will use sound management principles for key aspects of preparation, planting, maintenance, harvesting and storage, and give a clear account of how these principles are applied to promote healthy crops, making suggestions for some remedial action. They will offer clear examples to support their views, providing a detailed investigation of the key characteristics of crops and the parameters that influence their production. Learners will be independent in their approach, showing that they have used research to extend their understanding to less familiar contexts. The evidence will show competent use of agricultural terminology.

For pass standard, learners will investigate crop production characteristics in some detail and show understanding of annual, biennial and perennial crop production systems. Learners will consider characteristics of crops and give appropriate points on the key requirements for establishment and cultivation. Learners will safely carry out a range of tasks, covering the application of skills in planting, monitoring and harvesting for promoting healthy crops and applying appropriate storage practices. They will provide some appropriate examples to support their views, although these are likely to be undeveloped. There may be some minor irrelevancies in the use of appropriate agricultural terminology, with some omissions.

Learning aim B

For distinction standard, learners will give a thorough and considered account of different livestock production systems and their impact on animal welfare. Their account will include breed, characteristics and system type, and show an understanding of the key requirements of the different production systems. Learners will show how they used effective techniques to confidently handle and restrain farm livestock species. They will carry out a convincing and in-depth investigation in order to justify the diets and feeding strategies that will show they can manage high standards of animal welfare that reflect industry standards and practice. Learners will demonstrate that they are able to apply practical skills in complex situations and that they are capable of performing safely while handling livestock, demonstrating a proficient use of handling and restraining equipment. Learners will give a detailed rationale to justify their practice, which can have an impact on animal welfare and, in turn, a negative effect on the production system. They will demonstrate breadth and depth of understanding of the purpose of animal husbandry in farming, using specific agricultural terminology accurately throughout.

For merit standard, learners will show a broad understanding of different production systems and give competent and mostly relevant judgements as to their respective merits in relation to productivity and animal welfare. They will include detail of the animal breeds, characteristics and system types. Learners will show how they can use sound techniques to handle and restrain livestock, and comply with safety requirements. They will give a mostly coherent account of the provision of feed, water and nutrition to livestock; the account will include mostly relevant references to show that they can manage animal welfare. Learners will make mostly valid judgements when discussing the efficient management of animal nutrition, relating the impact of diets and feeding approaches to animal welfare. They will skilfully show that they are able to handle and restrain livestock in a range of situations while showing competent responsibility within the limits of their capabilities. They will make mostly logical judgements to show their understanding, using accurate agricultural terminology.

For pass standard, learners will provide a descriptive but realistic account of production systems, making some connections between different types. They will give some detail in their investigation, although this may be unsupported in places; they will provide some appropriate examples to support their views, although these are likely to be undeveloped. Learners will carry out practical tasks in handling and restraining, demonstrating some initiative within the limits of their responsibility. Learners will complete tasks safely and adhere to health and safety requirements, with some exercise of risk management. Learners will show appropriate knowledge of the provision of feed in diets and the production system. They will show appropriate understanding of feed choice and feeding techniques for common livestock, with general explanations of how they have an impact on immediate welfare. Evidence of practice will be general, with some irrelevancies, and their description will use generic agricultural terminology but with omissions.

Learning aims C and D

In completing the assessment for learning aims C and D, learners are required to independently select, apply and demonstrate appropriate knowledge and skills relating to working practices from *Unit 1: Professional Working Responsibilities*, maintenance of infrastructure from *Unit 5: Estate Skills*, operation and maintenance of farm equipment from *Unit 8: Land-based Machinery Operations*, and sector standards and practices from *Unit 4: Work Experience in the Land-based Sectors*.

For distinction standard, learners will produce a relevant and practicable farm production management plan that could be implemented with realistic resource availability. Plans will be based on in-depth monitoring and balanced evaluation of their own understanding, professionalism and skills application. Learners will make perceptive observations about how their own professional practice and applied farming practice has an impact on farming production outcomes. They will compare this with a thorough and detailed audit of farm production potential, with consideration of both internal and external constraints. Learners will apply inspection and monitoring with confidence, and broad and consistent understanding of crop maintenance and animal welfare within farming practice parameters. Monitoring of farm production will be assured and accurate, and will consider the impact of practice on productivity. Learners will consistently be looking for opportunities for development and focus on the maintenance of crops and animal welfare. This will inform a focused and reasoned plan that exploits the potential for their own development and that of the farm production. The plan will show logical aims and objectives, with a reasoned strategy for implementation covering all main areas, including resources, remedial actions for pests and disease, nutrition, welfare, waste, implementation, risk management and inspection. The plan will clearly identify and show work towards supporting broad aspects of regulation and licensing needs.

For merit standard, learners will produce a sound farm production management plan that is informed by farm practice monitoring and some comparison of alternative production opportunities. Plans will be based on relevant and accurate monitoring of and reflection on their own understanding, professionalism and skills application. Learners will make competent observations of their own professional practice and applied farming practice, and how this impacts on general farming production outcomes. They will prepare a farm production plan with consideration of both internal and external constraints. Learners will apply inspection and monitoring competently and show broad understanding of crop maintenance and animal welfare within farming practice parameters. Learners will look for opportunities for development and focus on the maintenance of crops and animal welfare. This will inform a sound plan that explores the potential for their own development and that of farm production. The plan will show mostly logical aims and objectives, with a clear strategy for implementation covering the main areas, including resources, remedial actions for pests and disease, nutrition, welfare, waste, implementation, risk management and inspection. The plan will identify and show work towards supporting broad aspects of regulation and licensing needs.

For pass standard, learners will maintain a level of assessment during practice of checking for the signs of deficiency in crops and livestock, this will inform their immediate practice, with some adaptation to support welfare. Learners will make appropriate observations of their own professional practice and applied farming practice, and how this impacts on general farming production outcomes. They will prepare a farm production plan with consideration of mostly internal constraints. Learners will make a coherent assessment of the suitability of the farm in order to suggest ideas for increasing productivity. This will inform a plan that describes some potential for their own development and that of the farm production. The plan will show appropriate aims and objectives, with a strategy for implementation covering the main areas, including resources, remedial actions for pests and disease, nutrition, welfare, waste, implementation, risk management and inspection. The plan will identify and show work towards supporting some aspects of regulation and licensing needs.

Links to other units

This unit should be completed towards the end of the programme. In order to complete the synoptic assessment tasks in this unit, learners should select and apply relevant knowledge and skills from other areas of the mandatory content, including: safe working practices, risk assessment and waste management from *Unit 1: Professional Working Responsibilities*; the management of the farm infrastructure from *Unit 5: Estate Skills*; and working practically and safely with a wide range of machinery from *Unit 8: Land-based Machinery Operations*. Learners will also have completed *Unit 4: Work Experience in the Land-based Sectors*, and will be able to apply their experience of and insight into real working practices in the sector.

Employer involvement

This unit would benefit from employer involvement in the form of:

- masterclasses on crop or livestock production
- technical workshops involving staff from local land-based organisations
- support from farm staff as mentors
- work experience and feedback on performance
- access to livestock and working processes
- access to crop production working processes
- access to working equipment and facilities such as land-based machinery.

4 Planning your programme

How do I choose the right BTEC National qualification for my learners?

BTEC Nationals come in a range of sizes, each with a specific purpose. You will need to assess learners very carefully to ensure that they start on the right size of qualification to fit into their 16–19 study programme, and that they take the right pathways or optional units that allow them to progress to the next stage.

Some learners may want to take a number of complementary qualifications or keep their progression options open. These learners may be suited to taking a BTEC National Certificate or Extended Certificate. Learners who then decide to continue with a fuller vocational programme can transfer to a BTEC National Diploma or Extended Diploma, for example for their second year.

Some learners are sure of the sector they want to work in and are aiming for progression into that sector via higher education. These learners should be directed to the two-year BTEC National Extended Diploma as the most suitable qualification.

As a centre, you may want to teach learners who are taking different qualifications together. You may also wish to transfer learners between programmes to meet changes in their progression needs. You should check the qualification structures and unit combinations carefully as there is no exact match among the different sizes. You may find that learners need to complete more than the minimum number of units when transferring.

When learners are recruited, you need to give them accurate information on the title and focus of the qualification for which they are studying.

Is there a learner entry requirement?

As a centre it is your responsibility to ensure that learners who are recruited have a reasonable expectation of success on the programme. There are no formal entry requirements but we expect learners to have qualifications at or equivalent to Level 2.

Learners are most likely to succeed if they have:

- five GCSEs at good grades and/or
- BTEC qualification(s) at Level 2
- achievement in English and mathematics through GCSE or Functional Skills.

Learners may demonstrate ability to succeed in various ways. For example, learners may have relevant work experience or specific aptitude shown through diagnostic tests or non-educational experience.

What is involved in becoming an approved centre?

All centres must be approved before they can offer these qualifications – so that they are ready to assess learners and so that we can provide the support that is needed. Further information is given in *Section 8*.

What level of sector knowledge is needed to teach these qualifications?

We do not set any requirements for teachers but expect that centres will assess the overall skills and knowledge of the teaching team to ensure that they are relevant and up to date. This will give learners a rich programme to prepare them for employment in the sector. As part of the requirements of the programme are to involve employers in delivery this should support centres in ensuring that they are following up to date practices when delivering the programme.

What resources are required to deliver these qualifications?

As part of your centre approval you will need to show that the necessary material resources and work spaces are available to deliver BTEC Nationals. For some units, specific resources are required. This is indicated in the units.

Which modes of delivery can be used for these qualifications?

You are free to deliver BTEC Nationals using any form of delivery that meets the needs of your learners. We recommend making use of a wide variety of modes, including direct instruction in classrooms or work environments, investigative and practical work, group and peer work, private study and e-learning.

What are the requirements for meaningful employer involvement?

Requirements

This BTEC National Extended Certificate in Agriculture has been designed as a Tech Level qualification. As an approved centre you are required to ensure that during their study, every learner has access to meaningful activity involving employers. Involvement should be with employers from the agriculture sector and should form a significant part of the delivery or assessment of the qualification. Each centre's approach to employer involvement will be monitored in two ways. It will be monitored at centre level in the first term each year as part of the annual quality management review process that addresses centre strategy for delivery, assessment and quality assurance, when we will ask you to show evidence of how employer involvement is provided for all learners. You will need to show evidence in order to gain reporting clearance for certification. It will be monitored also at programme level as part of the standards verification process to confirm that plans for employer involvement meet the requirements of the specification. These approaches are designed to ensure additional activities can be scheduled where necessary so learners are not disadvantaged (see *Section 8 Quality assurance*).

We know that the vast majority of programmes already have established links with employers. In order to give you maximum flexibility in creating and strengthening employer involvement, we have not specified a particular level of input from employers. However, meaningful employer involvement, as defined below, should contribute significantly to at least **one** mandatory unit. For this qualification, learners are expected to undertake 75 hours of work experience.

This mandatory unit specifies where delivery and/or assessment will be linked to employers:

- Unit 4: Work Experience in the Land-based Sectors.

There are suggestions in many of the units about how employers could become involved in delivery and/or assessment. These suggestions are not exhaustive and there will be other possibilities at local level.

Employer involvement in these units is subject to verification as part of the standards verification process (see *Section 8*).

Definition

Activities that are eligible to be counted as meaningful engagement are:

- structured work experience or work placements that develop skills and knowledge relevant to the qualification
- projects or assessments set with input from industry practitioners
- masterclasses or guest lectures from industry practitioners
- 'expert witness' reports from practitioners that contribute to the assessment of a learner's work.

There may be other ways in which learners can benefit from contact with employers or prepare for employment, such as listening to careers talks or working in simulated environments. While they provide benefits to learners they do not count as meaningful engagement.

Support

It is important that you give learners opportunities that are high quality and directly relevant to their study. We will support you in this through guidance materials and by giving you examples of best practice.

What support is available?

We provide a wealth of support materials, including curriculum plans, delivery guides, authorised assignment briefs, additional papers for external assessments and examples of marked learner work.

You will be allocated a Standards Verifier early on in the planning stage to support you with planning your assessments. There will be extensive training programmes as well as support from our Subject Advisor team.

For further details see *Section 10*.

How will my learners become more employable through these qualifications?

BTEC Nationals are mapped to relevant occupational standards (see *Appendix 1*).

In the mandatory content and the selected optional units that focus on technical preparation learners will be acquiring the key knowledge and skills that employers need. Also, employability skills such as team working and entrepreneurialism, and completing realistic tasks, have been built into the design of the learning aims and content. This gives you the opportunity to use relevant contexts, scenarios and materials to enable learners to develop a portfolio of evidence that demonstrates the breadth of their skills and knowledge in a way that equips them for employment.

5 Assessment structure and external assessment

Introduction

BTEC Nationals are assessed using a combination of *internal assessments*, which are set and marked by teachers, and *external assessments* which are set and marked by Pearson:

- mandatory units have a combination of internal and external assessments
- all optional units are internally assessed.

We have taken great care to ensure that the assessment method chosen is appropriate to the content of the unit and in line with requirements from employers and higher education.

In developing an overall plan for delivery and assessment for the programme, you will need to consider the order in which you deliver units, whether delivery is over short or long periods and when assessment can take place. Some units are defined as synoptic units (see *Section 2*). Normally, a synoptic assessment is one that a learner would take later in a programme and in which they will be expected to apply learning from a range of units. Synoptic units may be internally or externally assessed. Where a unit is externally assessed you should refer to the sample assessment materials (SAMs) to identify where there is an expectation that learners draw on their wider learning. For internally-assessed units, you must plan the assignments so that learners can demonstrate learning from across their programme. A unit may be synoptic in one qualification and not another because of the relationship it has to the rest of the qualification.

We have addressed the need to ensure that the time allocated to final assessment of internal and external units is reasonable so that there is sufficient time for teaching and learning, formative assessment and development of transferable skills.

In administering internal and external assessment, the centre needs to be aware of the specific procedures and policies that apply, for example to registration, entries and results. An overview with signposting to relevant documents is given in *Section 7*.

Internal assessment

Our approach to internal assessment for these qualifications will be broadly familiar to experienced centres. It offers flexibility in how and when you assess learners, provided that you meet assessment and quality assurance requirements. You will need to take account of the requirements of the unit format, which we explain in *Section 3*, and the requirements for delivering assessment given in *Section 6*.

External assessment

A summary of the external assessment for this qualification is given in *Section 2*. You should check this information carefully, together with the unit specification and the sample assessment materials, so that you can timetable learning and assessment periods appropriately.

Learners must be prepared for external assessment by the time they undertake it. In preparing learners for assessment you will want to take account of required learning time, the relationship with other external assessments and opportunities for retaking. You should ensure that learners are not entered for unreasonable amounts of external assessment in one session. Learners may resit an external assessment to obtain a higher grade of near pass or above. If a learner has more than one attempt, then the best result will be used for qualification grading, up to the permitted maximum. It is unlikely that learners will need to or benefit from taking all assessments twice so you are advised to plan appropriately. Some assessments are synoptic and learners are likely to perform best if these assessments are taken towards the end of the programme.

Key features of external assessment in agriculture

In agriculture, after consultation with stakeholders, we have developed the following.

- *Unit 1: Professional Working Responsibilities* – learners complete written tasks examining their knowledge and skills in the areas of professional working practice, personal welfare, and responsibilities for themselves, others and the environment. The unit provides crucial knowledge and skills for the wide-ranging roles found in the agricultural sector.

Units

The externally-assessed units have a specific format which we explain in *Section 3*. The content of units will be sampled across external assessments over time, through appropriate papers and tasks. The ways in which learners are assessed are shown through the assessment outcomes and grading descriptors. External assessments are marked and awarded using the grade descriptors. The grades available are Distinction (D), Merit (M), Pass (P) and Near Pass (N). The Near Pass (N) grade gives learners credit below a Pass, where they have demonstrated evidence of positive performance which is worth more than an unclassified result but not yet at the Pass standard.

Sample assessment materials

Each externally-assessed unit has a set of sample assessment materials (SAMs) that accompanies this specification. The SAMs are there to give you an example of what the external assessment will look like in terms of the feel and level of demand of the assessment. In the case of units containing synoptic assessment, the SAMs will also show where learners are expected to select and apply from across the programme.

The SAMs show the range of possible question types that may appear in the actual assessments. They give you a good indication of how the assessments will be structured. While SAMs can be used for practice with learners as with any assessment, the content covered and specific details of the questions asked will change in each assessment.

A copy of each of these assessments can be downloaded from our website. To allow your learners further opportunities for practice, an additional sample of each of the Pearson-set units will be available before the first sitting of the assessment.

6 Internal assessment

This section gives an overview of the key features of internal assessment and how you, as an approved centre, can offer it effectively. The full requirements and operational information are given in the *Pearson Quality Assurance Handbook*. All members of the assessment team need to refer to this document.

For BTEC Nationals it is important that you can meet the expectations of stakeholders and the needs of learners by providing a programme that is practical and applied. Centres can tailor programmes to meet local needs and use links with local employers and the wider vocational sector.

When internal assessment is operated effectively it is challenging, engaging, practical and up to date. It must also be fair to all learners and meet national standards.

Principles of internal assessment

Assessment through assignments

For internally-assessed units, the format of assessment is an assignment taken after the content of the unit, or part of the unit if several assignments are used, has been delivered. An assignment may take a variety of forms, including practical and written types. An assignment is a distinct activity completed independently by learners that is separate from teaching, practice, exploration and other activities that learners complete with direction from, and formative assessment by, teachers.

An assignment is issued to learners as an assignment brief with a defined start date, a completion date and clear requirements for the evidence that they need to provide. There may be specific observed practical components during the assignment period. Assignments can be divided into tasks and may require several forms of evidence. A valid assignment will enable a clear and formal assessment outcome based on the assessment criteria.

Assessment decisions through applying unit-based criteria

Assessment decisions for BTEC Nationals are based on the specific criteria given in each unit and set at each grade level. To ensure that standards are consistent in the qualification and across the suite as a whole, the criteria for each unit have been defined according to a framework. The way in which individual units are written provides a balance of assessment of understanding, practical skills and vocational attributes appropriate to the purpose of qualifications.

The assessment criteria for a unit are hierarchical and holistic. For example, if an M criterion requires the learner to show 'analysis' and the related P criterion requires the learner to 'explain', then to satisfy the M criterion a learner will need to cover both 'explain' and 'analyse'. The unit assessment grid shows the relationships among the criteria so that assessors can apply all the criteria to the learner's evidence at the same time. In *Appendix 2* we have set out a definition of terms that assessors need to understand.

Assessors must show how they have reached their decisions using the criteria in the assessment records. When a learner has completed all the assessment for a unit then the assessment team will give a grade for the unit. This is given simply according to the highest level for which the learner is judged to have met all the criteria. Therefore:

- to achieve a Distinction, a learner must have satisfied all the Distinction criteria (and therefore the Pass and Merit criteria); these define outstanding performance across the unit as a whole
- to achieve a Merit, a learner must have satisfied all the Merit criteria (and therefore the Pass criteria) through high performance in each learning aim
- to achieve a Pass, a learner must have satisfied all the Pass criteria for the learning aims, showing coverage of the unit content and therefore attainment at Level 3 of the national framework.

The award of a Pass is a defined level of performance and cannot be given solely on the basis of a learner completing assignments. Learners who do not satisfy the Pass criteria should be reported as Unclassified.

The assessment team

It is important that there is an effective team for internal assessment. There are three key roles involved in implementing assessment processes in your centre, each with different interrelated responsibilities, the roles are listed below. Full information is given in the *Pearson Quality Assurance Handbook*.

- The Lead Internal Verifier (the Lead IV) has overall responsibility for the programme, its assessment and internal verification to meet our requirements, record keeping and liaison with the Standards Verifier. The Lead IV registers with Pearson annually. The Lead IV acts as an assessor, supports the rest of the assessment team, makes sure that they have the information they need about our assessment requirements and organises training, making use of our guidance and support materials.
- Internal Verifiers (IVs) oversee all assessment activity in consultation with the Lead IV. They check that assignments and assessment decisions are valid and that they meet our requirements. IVs will be standardised by working with the Lead IV. Normally, IVs are also assessors but they do not verify their own assessments.
- Assessors set or use assignments to assess learners to national standards. Before taking any assessment decisions, assessors participate in standardisation activities led by the Lead IV. They work with the Lead IV and IVs to ensure that the assessment is planned and carried out in line with our requirements.

Effective organisation

Internal assessment needs to be well organised so that the progress of learners can be tracked and so that we can monitor that assessment is being carried out in line with national standards. We support you through, for example, providing training materials and sample documentation.

It is particularly important that you manage the overall assignment programme and deadlines to make sure that learners are able to complete assignments on time.

Learner preparation

To ensure that you provide effective assessment for your learners, you need to make sure that they understand their responsibilities for assessment and the centre's arrangements.

From induction onwards, you will want to ensure that learners are motivated to work consistently and independently to achieve the requirements of the qualifications. Learners need to understand how assignments are used, the importance of meeting assignment deadlines and that all the work submitted for assessment must be their own.

You will need to give learners a guide that explains how assignments are used for assessment, how assignments relate to the teaching programme and how learners should use and reference source materials, including what would constitute plagiarism. The guide should also set out your approach to operating assessment, such as how learners must submit work and request extensions.

Setting effective assignments

Setting the number and structure of assignments

In setting your assignments, you need to work with the structure of assignments shown in the *Essential information for assignments* section of a unit. This shows the structure of the learning aims and criteria that you must follow and the recommended number of assignments that you should use. For some units we provide authorised assignment briefs. For all the units we give you suggestions on how to create suitable assignments. You can find these materials along with this specification on our website. In designing your own assignment briefs you should bear in mind the following points.

- The number of assignments for a unit must not exceed the number shown in *Essential information for assignments*. However, you may choose to combine assignments, for example to create a single assignment for the whole unit.
- You may also choose to combine all or parts of different units into single assignments, provided that all units and all their associated learning aims are fully addressed in the programme overall. If you choose to take this approach, you need to make sure that learners are fully prepared so that they can provide all the required evidence for assessment and that you are able to track achievement in the records.
- A learning aim must always be assessed as a whole and must not be split into two or more tasks.
- The assignment must be targeted to the learning aims but the learning aims and their associated criteria are not tasks in themselves. Criteria are expressed in terms of the outcome shown in the evidence.
- For units containing synoptic assessment, the planned assignments must allow learners to select and apply their learning using appropriate self-management of tasks.
- You do not have to follow the order of the learning aims of a unit in setting assignments but later learning aims often require learners to apply the content of earlier learning aims and they may require learners to draw their learning together.
- Assignments must be structured to allow learners to demonstrate the full range of achievement at all grade levels. Learners need to be treated fairly by being given the opportunity to achieve a higher grade if they have the ability.
- As assignments provide a final assessment, they will draw on the specified range of teaching content for the learning aims. The specified content is compulsory. The evidence for assessment need not cover every aspect of the teaching content as learners will normally be given particular examples, case studies or contexts in their assignments. For example, if a learner is carrying out one practical performance, or an investigation of one organisation, then they will address all the relevant range of content that applies in that instance.

Providing an assignment brief

A good assignment brief is one that, through providing challenging and realistic tasks, motivates learners to provide appropriate evidence of what they have learned.

An assignment brief should have:

- a vocational scenario, this could be a simple situation or a full, detailed set of vocational requirements that motivates the learner to apply their learning through the assignment
- clear instructions to the learner about what they are required to do, normally set out through a series of tasks
- an audience or purpose for which the evidence is being provided
- an explanation of how the assignment relates to the unit(s) being assessed.

Forms of evidence

BTEC Nationals have always allowed for a variety of forms of evidence to be used, provided that they are suited to the type of learning aim being assessed. For many units, the practical demonstration of skills is necessary and for others, learners will need to carry out their own research and analysis. The units give you information on what would be suitable forms of evidence to give learners the opportunity to apply a range of employability or transferable skills. Centres may choose to use different suitable forms for evidence to those proposed. Overall, learners should be assessed using varied forms of evidence.

Full definitions of types of assessment are given in *Appendix 2*. These are some of the main types of assessment:

- written reports
- projects
- time-constrained practical assessments with observation records and supporting evidence
- recordings of performance
- sketchbooks, working logbooks, reflective journals
- presentations with assessor questioning.

The form(s) of evidence selected must:

- allow the learner to provide all the evidence required for the learning aim(s) and the associated assessment criteria at all grade levels
- allow the learner to produce evidence that is their own independent work
- allow a verifier to independently reassess the learner to check the assessor's decisions.

For example, when you are using performance evidence, you need to think about how supporting evidence can be captured through recordings, photographs or task sheets.

Centres need to take particular care that learners are enabled to produce independent work.

For example, if learners are asked to use real examples, then best practice would be to encourage them to use their own or to give the group a number of examples that can be used in varied combinations.

Making valid assessment decisions

Authenticity of learner work

Once an assessment has begun, learners must not be given feedback on progress towards fulfilling the targeted criteria.

An assessor must assess only learner work that is authentic, i.e. learners' own independent work. Learners must authenticate the evidence that they provide for assessment through signing a declaration stating that it is their own work.

Assessors must ensure that evidence is authentic to a learner through setting valid assignments and supervising them during the assessment period. Assessors must take care not to provide direct input, instructions or specific feedback that may compromise authenticity.

Assessors must complete a declaration that:

- the evidence submitted for this assignment is the learner's own
- the learner has clearly referenced any sources used in the work
- they understand that false declaration is a form of malpractice.

Centres can use Pearson templates or their own templates to document authentication.

During assessment, an assessor may suspect that some or all of the evidence from a learner is not authentic. The assessor must then take appropriate action using the centre's policies for malpractice. Further information is given in *Section 7*.

Making assessment decisions using criteria

Assessors make judgements using the criteria. The evidence from a learner can be judged using all the relevant criteria at the same time. The assessor needs to make a judgement against each criterion that evidence is present and sufficiently comprehensive. For example, the inclusion of a concluding section may be insufficient to satisfy a criterion requiring 'evaluation'.

Assessors should use the following information and support in reaching assessment decisions:

- the *Essential information for assessment decisions* section in each unit gives examples and definitions related to terms used in the criteria
- the explanation of key terms in *Appendix 2*
- examples of assessed work provided by Pearson
- your Lead IV and assessment team's collective experience, supported by the standardisation materials we provide.

Pass and Merit criteria relate to individual learning aims. The Distinction criteria as a whole relate to outstanding performance across the unit. Therefore, criteria may relate to more than one learning aim (for example A.D1) or to several learning aims (for example DE.D3). Distinction criteria make sure that learners have shown that they can perform consistently at an outstanding level across the unit and/or that they are able to draw learning together across learning aims.

Dealing with late completion of assignments

Learners must have a clear understanding of the centre policy on completing assignments by the deadlines that you give them. Learners may be given authorised extensions for legitimate reasons, such as illness at the time of submission, in line with your centre policies.

For assessment to be fair, it is important that learners are all assessed in the same way and that some learners are not advantaged by having additional time or the opportunity to learn from others. Therefore, learners who do not complete assignments by your planned deadline or the authorised extension deadline may not have the opportunity to subsequently resubmit.

If you accept a late completion by a learner, then the assignment should be assessed normally when it is submitted using the relevant assessment criteria.

Issuing assessment decisions and feedback

Once the assessment team has completed the assessment process for an assignment, the outcome is a formal assessment decision. This is recorded formally and reported to learners.

The information given to the learner:

- must show the formal decision and how it has been reached, indicating how or where criteria have been met
- may show why attainment against criteria has not been demonstrated
- must not provide feedback on how to improve evidence
- must be validated by an IV before it is given to the learner.

Resubmission of improved evidence

An assignment provides the final assessment for the relevant learning aims and is normally a final assessment decision, except where the Lead IV approves one opportunity to resubmit improved evidence based on the completed assignment brief.

The Lead IV has the responsibility to make sure that resubmission is operated fairly. This means:

- checking that a learner can be reasonably expected to perform better through a second submission, for example that the learner has not performed as expected
- making sure that giving a further opportunity can be done in such a way that it does not give an unfair advantage over other learners, for example through the opportunity to take account of feedback given to other learners
- checking that the assessor considers that the learner will be able to provide improved evidence without further guidance and that the original evidence submitted remains valid.

Once an assessment decision has been given to the learner, the resubmission opportunity must have a deadline within 15 working days in the same academic year.

A resubmission opportunity must not be provided where learners:

- have not completed the assignment by the deadline without the centre's agreement
- have submitted work that is not authentic.

Retake of internal assessment

A learner who has not achieved the level of performance required to pass the relevant learning aims after resubmission of an assignment may be offered a single retake opportunity using a new assignment. The retake may only be achieved at a Pass.

The Lead Internal Verifier must only authorise a retake of an assignment in exceptional circumstances where they believe it is necessary, appropriate and fair to do so. For further information on offering a retake opportunity, you should refer to the *BTEC Centre Guide to Internal Assessment*. We provide information on writing assignments for retakes on our website (www.btec.co.uk/keydocuments).

Planning and record keeping

For internal processes to be effective, an assessment team needs to be well organised and keep effective records. The centre will also work closely with us so that we can quality assure that national standards are being satisfied. This process gives stakeholders confidence in the assessment approach.

The Lead IV must have an assessment plan, produced as a spreadsheet. When producing a plan, the assessment team may wish to consider:

- the time required for training and standardisation of the assessment team
- the time available to undertake teaching and carry out assessment, taking account of when learners may complete external assessments and when quality assurance will take place
- the completion dates for different assignments
- who is acting as IV for each assignment and the date by which the assignment needs to be verified
- setting an approach to sampling assessor decisions through internal verification that covers all assignments, assessors and a range of learners
- how to manage the assessment and verification of learners' work so that they can be given formal decisions promptly
- how resubmission opportunities can be scheduled.

The Lead IV will also maintain records of assessment undertaken. The key records are:

- verification of assignment briefs
- learner authentication declarations
- assessor decisions on assignments, with feedback given to learners
- verification of assessment decisions.

Examples of records and further information are given in the *Pearson Quality Assurance Handbook*.

7 Administrative arrangements

Introduction

This section focuses on the administrative requirements for delivering a BTEC qualification. It will be of value to Quality Nominees, Lead IVs, Programme Leaders and Examinations Officers.

Learner registration and entry

Shortly after learners start the programme of learning, you need to make sure that they are registered for the qualification and that appropriate arrangements are made for internal and external assessment. You need to refer to the *Information Manual* for information on making registrations for the qualification and entries for external assessments.

Learners can be formally assessed only for a qualification on which they are registered. If learners' intended qualifications change, for example if a learner decides to choose a different pathway specialism, then the centre must transfer the learner appropriately.

Access to assessment

Both internal and external assessments need to be administered carefully to ensure that all learners are treated fairly, and that results and certification are issued on time to allow learners to progress to chosen progression opportunities.

Our equality policy requires that all learners should have equal opportunity to access our qualifications and assessments, and that our qualifications are awarded in a way that is fair to every learner. We are committed to making sure that:

- learners with a protected characteristic are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve for undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational Qualifications*.

Administrative arrangements for internal assessment

Records

You are required to retain records of assessment for each learner. Records should include assessments taken, decisions reached and any adjustments or appeals. Further information can be found in the *Information Manual*. We may ask to audit your records so they must be retained as specified.

Reasonable adjustments to assessment

A reasonable adjustment is one that is made before a learner takes an assessment to ensure that they have fair access to demonstrate the requirements of the assessments. You are able to make adjustments to internal assessments to take account of the needs of individual learners. In most cases this can be achieved through a defined time extension or by adjusting the format of evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. You need to plan for time to make adjustments if necessary.

Further details on how to make adjustments for learners with protected characteristics are given on our website in the document *Supplementary guidance for reasonable adjustment and special consideration in vocational internally-assessed units*.

Special consideration

Special consideration is given after an assessment has taken place for learners who have been affected by adverse circumstances, such as illness. You must operate special consideration in line with our policy (see previous paragraph). You can provide special consideration related to the period of time given for evidence to be provided or for the format of the assessment if it is equally valid. You may not substitute alternative forms of evidence to that required in a unit, or omit the application of any assessment criteria to judge attainment. Pearson can consider applications for special consideration in line with the policy.

Appeals against assessment

Your centre must have a policy for dealing with appeals from learners. These appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy could be a consideration of the evidence by a Lead IV or other member of the programme team. The assessment plan should allow time for potential appeals after assessment decisions have been given to learners. If there is an appeal by a learner, you must document the appeal and its resolution. Learners have a final right of appeal to Pearson but only if the procedures that you have put in place have not been followed. Further details are given in the document *Enquiries and appeals about Pearson vocational qualifications and end point assessment policy*.

Administrative arrangements for external assessment

Entries and resits

For information on the timing of assessment and entries, please refer to the annual examinations timetable on our website.

Access arrangements requests

Access arrangements are agreed with Pearson before an assessment. They allow students with special educational needs, disabilities or temporary injuries to:

- access the assessment
- show what they know and can do without changing the demands of the assessment.

Access arrangements should always be processed at the time of registration. Learners will then know what type of arrangements are available in place for them.

Granting reasonable adjustments

For external assessment, a reasonable adjustment is one that we agree to make for an individual learner. A reasonable adjustment is defined for the individual learner and informed by the list of available access arrangements.

Whether an adjustment will be considered reasonable will depend on a number of factors, to include:

- the needs of the learner with the disability
- the effectiveness of the adjustment
- the cost of the adjustment; and
- the likely impact of the adjustment on the learner with the disability and other learners.

Adjustment may be judged unreasonable and not approved if it involves unreasonable costs, timeframes or affects the integrity of the assessment.

Special consideration requests

Special consideration is an adjustment made to a learner's mark or grade after an external assessment to reflect temporary injury, illness or other indisposition at the time of the assessment. An adjustment is made only if the impact on the learner is such that it is reasonably likely to have had a material effect on that learner being able to demonstrate attainment in the assessment.

Centres are required to notify us promptly of any learners who they believe have been adversely affected and request that we give special consideration. Further information can be found in the special requirements section on our website.

Conducting external assessments

Centres must make arrangements for the secure delivery of external assessments. External assessments for BTEC qualifications include examinations, set tasks and performance.

Each external assessment has a defined degree of control under which it must take place. Some external assessments may have more than one part and each part may have a different degree of control. We define degrees of control as follows.

High control

This is the completion of assessment in formal invigilated examination conditions.

Medium control

This is completion of assessment, usually over a longer period of time, which may include a period of controlled conditions. The controlled conditions may allow learners to access resources, prepared notes or the internet to help them complete the task.

Low control

These are activities completed without direct supervision. They may include research, preparation of materials and practice. The materials produced by learners under low control will not be directly assessed.

Further information on responsibilities for conducting external assessment is given in the document *Instructions for Conducting External Assessments*, available on our website.

Dealing with malpractice in assessment

Malpractice means acts that undermine the integrity and validity of assessment, the certification of qualifications, and/or that may damage the authority of those responsible for delivering the assessment and certification.

Pearson does not tolerate actions (or attempted actions) of malpractice by learners, centre staff or centres in connection with Pearson qualifications. Pearson may impose penalties and/or sanctions on learners, centre staff or centres where incidents (or attempted incidents) of malpractice have been proven.

Malpractice may arise or be suspected in relation to any unit or type of assessment within the qualification. For further details regarding malpractice and advice on preventing malpractice by learners, please see Pearson's *Centre guidance: Dealing with malpractice and maladministration in vocational qualifications*, available on our website.

The procedures we ask you to adopt vary between units that are internally-assessed and those that are externally assessed.

Internally-assessed units

Centres are required to take steps to prevent malpractice and to investigate instances of suspected malpractice. Learners must be given information that explains what malpractice is for internal assessment and how suspected incidents will be dealt with by the centre. The *Centre Guidance: Dealing with Malpractice* document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe that a centre is failing to conduct internal assessment according to our policies. The above document gives further information, examples and details the penalties and sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

Externally-assessed units

External assessment means all aspects of units that are designated as external in this specification, including preparation for tasks and performance. For these assessments, centres must follow the JCQ procedures set out in the latest version of *JCQ Suspected Malpractice in Examinations and Assessments Policies and Procedures* (www.jcq.org.uk).

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

Learner malpractice

Heads of Centres are required to report incidents of any suspected learner malpractice that occur during Pearson external assessments. We ask that centres do so by completing a *JCQ Form M1* (available at www.jcq.org.uk/exams-office/malpractice) and emailing it and any accompanying documents (signed statements from the learner, invigilator, copies of evidence, etc.) to the Investigations Team at candidatemalpractice@pearson.com. The responsibility for determining appropriate sanctions or penalties to be imposed on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Teacher/centre malpractice

Heads of Centres are required to inform Pearson's Investigations Team of any incident of suspected malpractice by centre staff, before any investigation is undertaken. Heads of centres are requested to inform the Investigations Team by submitting a *JCQ Form M2(a)* (available at www.jcq.org.uk/exams-office/malpractice) with supporting documentation to pqsmalpractice@pearson.com. Where Pearson receives allegations of malpractice from other sources (for example Pearson staff or anonymous informants), the Investigations Team will conduct the investigation directly or may ask the head of centre to assist.

Incidents of maladministration (accidental errors in the delivery of Pearson qualifications that may affect the assessment of learners) should also be reported to the Investigations Team using the same method.

Heads of Centres/Principals/Chief Executive Officers or their nominees are required to inform learners and centre staff suspected of malpractice of their responsibilities and rights; see Section 6.15 of the *JCQ Suspected Malpractice in Examinations and Assessments Policies and Procedures* document.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results and/or certificates while an investigation is in progress. Depending on the outcome of the investigation results and/or certificates may be released or withheld.

You should be aware that Pearson may need to suspend certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

Sanctions and appeals

Where malpractice is proven we may impose sanctions or penalties.

Where learner malpractice is evidenced, penalties may be imposed such as:

- mark reduction for external assessments
- disqualification from the qualification
- being barred from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures we may impose sanctions such as:

- working with you to create an improvement action plan
- requiring staff members to receive further training
- placing temporary blocks on your certificates
- placing temporary blocks on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

Pearson has established procedures for centres that are considering appeals against penalties and sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from Heads of Centres (on behalf of learners and/or members of staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in our *Enquiries and appeals about Pearson vocational qualifications and end point assessment policy*, which is on our website. In the initial stage of any aspect of malpractice, please notify the Investigations Team by email via pqsmalpractice@pearson.com who will inform you of the next steps.

Certification and results

Once a learner has completed all the required components for a qualification, even if final results for external assessments have not been issued, then the centre can claim certification for the learner, provided that quality assurance has been successfully completed. For the relevant procedures please refer to our *Information Manual*. You can use the information provided on qualification grading to check overall qualification grades.

Results issue

After the external assessment session, learner results will be issued to centres. The result will be in the form of a grade. You should be prepared to discuss performance with learners, making use of the information we provide and post-results services.

Post-assessment services

Once results for external assessments are issued, you may find that the learner has failed to achieve the qualification or to attain an anticipated grade. It is possible to transfer or reopen registration in some circumstances. The *Information Manual* gives further information.

Changes to qualification requests

Where a learner who has taken a qualification wants to resit an externally-assessed unit to improve their qualification grade, you firstly need to decline their overall qualification grade. You may decline the grade before the certificate is issued. For a learner receiving their results in August, you should decline the grade by the end of September if the learner intends to resit an external assessment.

Additional documents to support centre administration

As an approved centre you must ensure that all staff delivering, assessing and administering the qualifications have access to this documentation. These documents are reviewed annually and are reissued if updates are required.

- *Pearson Quality Assurance Handbook*: this sets out how we will carry out quality assurance of standards and how you need to work with us to achieve successful outcomes.
- *Information Manual*: this gives procedures for registering learners for qualifications, transferring registrations, entering for external assessments and claiming certificates.
- *Lead Examiners' Reports*: these are produced after each series for each external assessment and give feedback on the overall performance of learners in response to tasks or questions set.
- *Instructions for the Conduct of External Assessments (ICEA)*: this explains our requirements for the effective administration of external assessments, such as invigilation and submission of materials.
- *Regulatory policies*: our regulatory policies are integral to our approach and explain how we meet internal and regulatory requirements. We review the regulated policies annually to ensure that they remain fit for purpose. Policies related to this qualification include:
 - adjustments for candidates with disabilities and learning difficulties, access arrangements and reasonable adjustments for general and vocational qualifications
 - age of learners
 - centre guidance for dealing with malpractice
 - recognition of prior learning and process.

This list is not exhaustive and a full list of our regulatory policies can be found on our website.

8 Quality assurance

Centre and qualification approval

As part of the approval process, your centre must make sure that the resource requirements listed below are in place before offering the qualification.

- Centres must have appropriate physical resources (for example equipment, IT, learning materials, teaching rooms) to support the delivery and assessment of the qualification.
- Staff involved in the assessment process must have relevant expertise and/or occupational experience.
- There must be systems in place to ensure continuing professional development for staff delivering the qualification.
- Centres must have in place appropriate health and safety policies relating to the use of equipment by learners.
- Centres must deliver the qualification in accordance with current equality legislation.
- Centres should refer to the teacher guidance section in individual units to check for any specific resources required.

Continuing quality assurance and standards verification

On an annual basis, we produce the *Pearson Quality Assurance Handbook*. It contains detailed guidance on the quality processes required to underpin planning for delivery including appropriate employer involvement, and for robust assessment and internal verification.

The key principles of quality assurance are that:

- a centre delivering BTEC programmes must be an approved centre, and must have approval for the programmes or groups of programmes that it is delivering
- the centre agrees, as part of gaining approval, to abide by specific terms and conditions around the effective delivery and quality assurance of assessment; it must abide by these conditions throughout the period of delivery
- Pearson makes available to approved centres a range of materials and opportunities, through online standardisation, intended to exemplify the processes required for effective assessment, and examples of effective standards. Approved centres must use the materials and services to ensure that all staff delivering BTEC qualifications keep up to date with the guidance on assessment
- an approved centre must follow agreed protocols for standardisation of assessors and verifiers, for the planning, monitoring and recording of assessment processes, and for dealing with special circumstances, appeals and malpractice.

The approach of quality-assured assessment is through a partnership between an approved centre and Pearson. We will make sure that each centre follows best practice and employs appropriate technology to support quality-assurance processes, where practicable. We work to support centres and seek to make sure that our quality-assurance processes do not place undue bureaucratic processes on centres. We monitor and support centres in the effective operation of assessment and quality assurance.

The methods we use to do this for BTEC Level 3 include:

- making sure that all centres complete appropriate declarations at the time of approval
- undertaking approval visits to centres
- making sure that centres have effective teams of assessors and verifiers who are trained to undertake assessment
- assessment sampling and verification, through requested samples of assessments, completed assessed learner work and associated documentation
- an overarching review and assessment of a centre's strategy for delivering and quality assuring its BTEC programmes, for example making sure that synoptic units are placed appropriately in the order of delivery of the programme.

Centres that do not fully address and maintain rigorous approaches to delivering, assessing and quality assurance cannot seek certification for individual programmes or for all BTEC Level 3 programmes. An approved centre must make certification claims only when authorised by us and strictly in accordance with requirements for reporting.

Centres that do not comply with remedial action plans may have their approval to deliver qualifications removed.

9 Understanding the qualification grade

Awarding and reporting for the qualification

This section explains the rules that we apply in awarding a qualification and in providing an overall qualification grade for each learner. It shows how all the qualifications in this sector are graded.

The awarding and certification of these qualifications will comply with regulatory requirements.

Eligibility for an award

In order to be awarded a qualification, a learner must complete all units, achieve a Near Pass (N) or above in all external units and a pass or above in all mandatory units unless otherwise specified. Refer to the structure in *Section 2*.

To achieve any qualification grade, learners must:

- complete and **have an outcome** (D, M, P, N or U) for all units within a valid combination
- achieve the **required units at pass or above** shown in *Section 2*, and for the Diploma achieve a minimum of 600 GLH and Extended Diploma achieve a minimum 900 GLH at Pass or above (or N or above in external units)
- achieve the **minimum number of points** at a grade threshold.

It is the responsibility of a centre to ensure that a correct unit combination is adhered to. Learners who do not achieve the required minimum grade (N or P) in units shown in the structure will not achieve a qualification.

Learners who do not achieve sufficient points for a qualification or who do not achieve all the required units may be eligible to achieve a smaller qualification in the same suite provided they have completed and achieved the correct combination of units and met the appropriate qualification grade points threshold.

Calculation of the qualification grade

The final grade awarded for a qualification represents an aggregation of a learner's performance across the qualification. As the qualification grade is an aggregate of the total performance, there is some element of compensation in that a higher performance in some units may be balanced by a lower outcome in others.

In the event that a learner achieves more than the required number of optional units, the mandatory units along with the optional units with the highest grades will be used to calculate the overall result, subject to the eligibility requirements for that particular qualification title.

BTEC Nationals are Level 3 qualifications and are awarded at the grade ranges shown in the table below.

Qualification	Available grade range
Certificate, Extended Certificate, Foundation Diploma	P to D*
Diploma	PP to D*D*

The *Calculation of qualification grade* table, shown further on in this section, shows the minimum thresholds for calculating these grades. The table will be kept under review over the lifetime of the qualification. The most up to date table will be issued on our website.

Pearson will monitor the qualification standard and reserves the right to make appropriate adjustments.

Learners who do not meet the minimum requirements for a qualification grade to be awarded will be recorded as Unclassified (U) and will not be certificated. They may receive a Notification of Performance for individual units. The *Information Manual* gives full information.

Points available for internal units

The table below shows the number of **points** available for internal units. For each internal unit, points are allocated depending on the grade awarded.

	Unit size	
	60 GLH	120 GLH
U	0	0
Pass	6	12
Merit	10	20
Distinction	16	32

Points available for external units

Raw marks from the external units will be awarded **points** based on performance in the assessment. The table below shows the **minimum number of points** available for each grade in the external units.

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

Pearson will automatically calculate the points for each external unit once the external assessment has been marked and grade boundaries have been set. For more details about how we set grade boundaries in the external assessment please go to our website.

Claiming the qualification grade

Subject to eligibility, Pearson will automatically calculate the qualification grade for your learners when the internal unit grades are submitted and the qualification claim is made. Learners will be awarded qualification grades for achieving the sufficient number of points within the ranges shown in the relevant *Calculation of qualification grade* table for the cohort.

Calculation of qualification grade

Applicable for registration from 1 September 2019.

Extended Certificate		Foundation Diploma		Diploma		Extended Diploma	
360 GLH		540 GLH		720 GLH		1080 GLH	
Grade	Points threshold	Grade	Points threshold	Grade	Points threshold	Grade	Points threshold
U	0	U	0	U	0	U	0
Pass	36	P	54	PP	72	PPP	108
				MP	88	MPP	124
						MMP	140
Merit	52	M	78	MM	104	MMM	156
				DM	124	DMM	176
						DDM	196
Distinction	74	D	108	DD	144	DDD	216
				D*D	162	D*DD	234
						D*D*D	252
Distinction*	90	D*	138	D*D*	180	D*D*D*	270

The table is subject to review over the lifetime of the qualification. The most up-to-date version will be issued on our website.

Examples of grade calculations based on table applicable to registrations from September 2019

Example 1: Achievement of an Extended Certificate with a P grade

	GLH	Type (Int/Ext)	Grade	Unit points
Unit 1	120	Ext	Pass	12
Unit 4	60	Int	Merit	10
Unit 5	60	Int	Unclassified	0
Unit 28	120	Int	Merit	20
Totals	360		P	42

The learner has achieved N or higher in Unit 1 and P or higher in Unit 28.

The learner has sufficient points for a P grade.

Example 2: Achievement of an Extended Certificate with an M grade

	GLH	Type (Int/Ext)	Grade	Unit points
Unit 1	120	Ext	Near Pass	8
Unit 4	60	Int	Distinction	16
Unit 5	60	Int	Distinction	16
Unit 28	120	Int	Merit	20
Totals	360		M	60

The learner has sufficient points for an M grade.

Example 3: An Unclassified Result for an Extended Certificate

	GLH	Type (Int/Ext)	Grade	Unit points
Unit 1	120	Ext	Merit	20
Unit 4	60	Int	Distinction	24
Unit 5	60	Int	Merit	10
Unit 28	120	Int	Unclassified	0
Totals	360		U	54

The learner has a U in Unit 28.

The learner has sufficient points for an M grade but has not met the minimum requirement for an N or higher in Unit 1 and P or higher in Unit 28.

10 Resources and support

Our aim is to give you a wealth of resources and support to enable you to deliver BTEC National qualifications with confidence. On our website you will find a list of resources to support teaching and learning, and professional development.

Support for setting up your course and preparing to teach

Specification

This **specification** (for teaching from September 2019) includes details on the administration of qualifications and information on all the units for the qualification.

Delivery Guide

This free guide gives 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. It explains the key features of BTEC Nationals (for example employer involvement and employability skills). It also covers guidance on assessment (internal and external) and quality assurance. The guide tells you where you can find further support and gives detailed unit-by-unit delivery guidance. It includes teaching tips and ideas, assessment preparation and suggestions for further resources.

Schemes of work

Free sample schemes of work are provided for each mandatory unit. These are available in Word™ format for ease of customisation.

Curriculum models

These show how the BTECs in the suite fit into a 16–19 study programme, depending on their size and purpose. The models also show where other parts of the programme, such as work experience, maths and English, tutorial time and wider study, fit alongside the programme.

Study skills activities

A range of case studies and activities is provided; they are designed to help learners develop the study skills they need to successfully complete their BTEC course. The case studies and activities are provided in Word™ format for easy customisation.

Support for teaching and learning

Pearson Learning Services provides a range of engaging resources to support BTEC Nationals, including introductory guides to the Next Generation BTEC National approach to learning.

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 externally-assessed units

Sample assessments are available for the Pearson-set units. One copy of each of these assessments can be downloaded from the website/available in print. For each suite, an additional sample for one of the Pearson-set units is also available, allowing your learners further opportunities for practice.

Further sample assessments will be made available through our website on an ongoing basis.

Sample assessment materials for internally-assessed units

We do not prescribe the assessments for the internally-assessed units. Rather, we allow you to set your own, according to your learners' preferences and to link with your local employment profile.

We do provide a service in the form of Authorised Assignment Briefs, which are approved by Pearson Standards Verifiers. They are available via our website.

Sample marked learner work

To support you in understanding the expectation of the standard at each grade, examples of marked learner work at PM/MD grades are linked to the Authorised Assignment Briefs.

Training and support from Pearson

People to talk to

There are many people who are available to support you and provide advice and guidance on delivery of your BTEC Nationals. These include:

- Subject Advisors – available for all sectors. They understand all Pearson qualifications in their sector and so can answer sector-specific queries on planning, teaching, learning and assessment
- Standards Verifiers – they can support you with preparing your assignments, ensuring that your assessment plan is set up correctly, and support you in preparing learner work and providing quality assurance through sampling
- Curriculum Development Managers (CDMs) – they are regionally based and have a full overview of the BTEC qualifications and of the support and resources that Pearson provides. CDMs often run network events
- Customer Services – the 'Support for You' section of our website gives the different ways in which you can contact us for general queries. For specific queries, our service operators can direct you to the relevant person or department.

Training and professional development

Pearson provides a range of training and professional development events to support the introduction, delivery, assessment and administration of BTEC National qualifications. These sector-specific events, developed and delivered by specialists, are available both face to face and online.

'Getting Ready to Teach'

These events are designed to get teachers ready for delivery of the BTEC Nationals. They include an overview of the qualifications' structures, planning and preparation for internal and external assessment, and quality assurance.

Teaching and learning

Beyond the 'Getting Ready to Teach' professional development events, there are opportunities for teachers to attend sector- and role-specific events. These events are designed to connect practice to theory; they provide teacher support and networking opportunities with delivery, learning and assessment methodology.

Details of our training and professional development programme can be found on our website.

Appendix 1 Links to industry standards

BTEC Nationals have been developed in consultation with industry and appropriate sector bodies to ensure that the qualification content and approach to assessment aligns closely to the needs of employers. Where they exist, and are appropriate, National Occupational Standards (NOS) and professional body standards have been used to establish unit content.

In the agriculture sector, the following approach has been used: the mandatory content has been mapped to NOS to reflect the essential skills and knowledge needed for entry to employment.

Appendix 2 Glossary of terms used for internally-assessed units

This is a summary of the key terms used to define the requirements in the units.

Term	Definition
Analyse	<p>Learners present the outcome of methodical and detailed examination, either:</p> <ul style="list-style-type: none"> • breaking down a theme, topic or situation in order to interpret and study the interrelationships between the parts and/or • of information or data to interpret and study key trends and interrelationships. <p>Analysis can be through performance, practice, written or, less commonly, verbal presentation.</p>
Apply	Learners complete practical tasks drawing on knowledge of concepts and processes.
Assess	Learners present a careful consideration of varied factors or events that apply to a specific situation, or identify those which are the most important or relevant and arrive at a conclusion.
Carry out	Learners demonstrate skills through practical activities, in line with certain requirements. Learners do this in order to complete an identified activity or to demonstrate personal achievement for an audience.
Compare	Learners identify the main factors relating to two or more items/situations or aspects of a subject that is extended to explain the similarities, differences, advantages and disadvantages. This is used to show depth of knowledge through selection and isolation of characteristics.
Demonstrate	Learners' work, performance or practice evidences the ability to carry out and apply knowledge, understanding and/or skills in a practical situation.
Develop	Learners acquire and apply skills and understanding through practical activities that involve the use of concepts, processes or techniques to expand or progress something.
Evaluate	<p>Learners' work draws on varied information, themes or concepts to consider aspects such as:</p> <ul style="list-style-type: none"> • strengths or weaknesses • advantages or disadvantages • alternative actions • relevance or significance. <p>Learners' inquiries should lead to a supported judgement showing relationship to its context. This will often be in a conclusion.</p> <p>Evidence of explanations could be through visual explanations with annotations as well as written work, presentation, performance or practice.</p>

Term	Definition
Examine	Learners select and apply knowledge to less familiar contexts.
Explain	Learners' work shows clear detail and gives reasons and/or evidence to support an opinion, view or argument. It could show how conclusions are drawn (arrived at). Learners show that they comprehend the origins, functions and objectives of a subject, and its suitability for purpose.
Explore	Learners apply their skills and/or knowledge in contexts involving practical research or investigation.
Justify	Learners give reasons or evidence to: <ul style="list-style-type: none"> • support an opinion • prove something right or reasonable.
Perform	Learners demonstrate a range of skills required to complete a given activity.
Plan	Learners create a way of doing a task or series of tasks to achieve specific requirements or objectives, showing progress from start to finish.
Produce	Learners' knowledge, understanding and/or skills are applied to develop a particular type of evidence, for example a proposal, plan, product, service or report.
Reflect	Learners consider their own performance and/or skills and development in relation to a specific scenario or scenarios and/or wider context(s). This may include feedback from others. There is often a requirement for learners to identify strengths and areas for improvement, along with a personal development or action plan.
Review	Learners make a formal assessment of work produced. The assessment allows learners to appraise existing information or prior events, and reconsider information with the intention of making changes, if necessary.
Select	Learners choose the best or most suitable option, whether this is of materials, techniques, equipment or processes. The options and choices should be based on specific criteria.
Undertake	Learners demonstrate skills through practical activities, often referring to given processes or techniques.

This is a key summary of the types of evidence used for BTEC Nationals.

Type of evidence	Definition and purpose
Case study	A specific example to which all learners must select and apply knowledge. Used to show application to a realistic context where direct experience cannot be gained.
Development log	A record kept by learners to show the process of development. Used to show method, self-management and skill development.
Individual project	A self-directed, large-scale activity requiring planning, research, exploration, outcome and review. Used to show self-management, project management and/or deep learning, including synopticity.
Log	A record made by learners of how a process of development was carried out, including experimental stages, testing, selection and rejection of alternatives, practice or development steps.
Plan	Learners produce a plan as an outcome related to a given or limited task.
Portfolio	Digital or physical, showing a selection of work that contributes towards a project or for a specific purpose.
Practical task (artefact/outcome)	Learners carry out a defined or self-defined task to produce an outcome.
Presentation	To show presentation skills, including communication. To direct to a given audience and goal. To extract and summarise information.
Project	A large-scale activity requiring planning, research, exploration, outcome and review. Used to show self-management, project management and/or deep learning, including synopticity.
Research	An analysis of substantive research organised by learners from secondary and, if applicable, primary sources.
Written task/report	Individual completion of a task in a work-related format, e.g. a report, marketing communication, set of instructions.

Pearson BTEC Level 3 Nationals in Agriculture

Extended Certificate in Agriculture

Foundation Diploma in Agriculture

Diploma in Agriculture

Extended Diploma in Agriculture

For more information about Edexcel, BTEC or LCCI qualifications
visit qualifications.pearson.com

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