

apprenticeship FRAMEWORK

Land-based Engineering (England)

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Land-based Engineering (England)

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The Apprenticeship sector for occupations in environmental and land-based.

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Short description

The Land-based Engineering Apprenticeship offers a Level 2 and Level 3 entry route into the industry and provides the skills and knowledge required to carry out their job role and support the future progression within the industry.

The Diploma in Work-based Land-based Engineering included within the framework has routes which apprentices may select depending on the area of employment; these are reflected in the range of jobs such as: service technician, sports/groundcare technician, demonstrator, independent technician or workshop supervisor/manager.

Following successful completion of the Apprenticeship, apprentices can progress within Land-based Engineering in Further/Higher Education or through other vocational courses.

Contact information

Proposer of this framework

The land-based engineering industry group which includes employers and trade associations such as the British Agricultural and Garden Machinery Association (BAGMA), Institute of Agricultural Engineers (IAgrE), Agriculture Engineering Association (AEA), John Deere, AGCO, CLAAS UK, JCB, CNH and a number of independent businesses/dealers.

Developer of this framework

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Revising a framework

Contact details

Who is making this revision:

Your organisation:

Your email address:

Why this framework is being revised

(no information)

Summary of changes made to this framework

(no information)

Qualifications removed

(no information)

Qualifications added

(no information)

Qualifications that have been extended

(no information)

Purpose of this framework

Summary of the purpose of the framework

Land-based engineering is a broad and highly specialised industry working with a vast array of machines. Employees are expected to work on a wide range of specialist vehicles and machines used in agriculture, forestry, horticulture, groundcare and fixed plant. An important role for employees is keeping equipment in good working order through planned maintenance, as well as carrying out any diagnostic and repair work when required.

The land-based engineering industry comprises of the following areas:

- Agricultural machinery - including tractors, harvest, cultivation and crop protection machinery
- Groundcare machinery - including garden, sports turf and local grounds maintenance machinery
- Forestry/arboriculture machinery - including chainsaws and chippers
- Fixed machinery - including grain/crop processing and milking equipment.

Often when qualified, workers are called upon by businesses to repair machines which may involve them working alone in the field, this requires good knowledge of health and safety legislation and working alone policies which learners will gain through the Apprenticeship in Land-based Engineering.

Small and medium sized businesses dominate the land-based and environmental sector with 80% of the land-based engineering businesses employing fewer than ten people, which emphasises the need for the workforce to be highly skilled. The Apprenticeship offers businesses the opportunity to ensure that all their staff have the required skills and knowledge to meet the challenges of the 21st century.

Research carried out by Lantra in 2010 revealed that the land-based engineering industry in England represents 1% of the businesses (1,660) within the land-based and environmental sector and 1% of the employment with 8,500 employees (total for the sector is 905,500). However, land-based engineering is a valuable industry as it provides support for several other industries within the land-based and environmental sector. The technology used within these industries and others evolve continuously, therefore it is imperative that qualifications are kept up-to-date, reflect the wide diversity of equipment and machinery used within the land-based and environmental sector and are reflective of industry needs. The research also showed that

the industry has an ageing workforce with 56% of the employees aged 40 or over. Therefore, the Apprenticeship entry and progression opportunities aim to encourage young learners into the land-based engineering industry by offering development opportunities to ensure the future of the skills and knowledge within the industry.

The land-based engineering industry suggests that there are skills gaps in specialist technical knowledge, computer literacy, customer care and basic technical skills. The Apprenticeship has taken this on board with the revised framework including these skills within the Diploma in Work-based Land-based Engineering and other areas of the Apprenticeship.

The land-based engineering industry values the Apprenticeship as an entry route into the sector as it offers apprentices the opportunity to learn the skills by completing hands-on work experience supported by underpinning knowledge. The industry support for the Apprenticeship is evidenced by the consistent level of completions in England over the last three years as indicated below:

2009/2010

- Level 2 – 140
- Level 3 – 70
- Total – 210

2008/2009

- Level 2 – 150
- Level 3 – 100
- Total – 250

2007/2008

- Level 2 – 110
- Level 3 – 90
- Total – 200

During the review of this Apprenticeship, Lantra involved the English members of the industry and virtual group which accounts for 90 individuals and trade associations such as: British Agricultural and Garden Machinery Association (BAGMA), Institute of Agricultural Engineers (IAgrE), Agriculture Engineering Association (AEA), John Deere, AGCO, CLAAS UK, JCB, CNH and a number of independent businesses/dealers. By involving trade associations

and independent businesses we ensure that the Apprenticeship framework is reflective of the current and future needs of the industry.

This important entry route into the industry has been highlighted by employers in the Industry Action Plan, which states the need to prioritise and increase the awareness and uptake of Land-based Engineering Apprenticeships.

The land-based engineering framework at both Levels 2 and 3 reflect the job roles within the industries and allows apprentices to take units in agricultural, forestry/arboriculture, groundcare or fixed plant and storage depending on the business they are working in. The types of jobs available include:

- Job roles at Level 2 may include: sports and groundcare technician or service technician.
- Job roles at Level 3 may include: demonstrator, independent technician or workshop supervisor.

Further information on the land-based engineering industry can be found at: www.lantra.co.uk.

Aims and objectives of this framework (England)

The aim of the Level 2 and 3 Apprenticeship is to build on the success of its predecessor by including updated qualifications to meet the skills needs of employers, attracting new applicants into the land-based engineering industry to fill the vacancies and provide a progression pathway for apprentices to higher level jobs.

The objectives are to:

1. Continue and build upon the previous success of the Intermediate Apprenticeship and Advanced Apprenticeship
2. Encourage more of the intermediate apprentices to progress onto the Advanced Apprenticeship
3. Increase awareness and the benefits of the two levels of Apprenticeship with employers, employees and young people
4. Upskill those working in the land-based engineering sub-sectors to ensure that they attain the skills required to be competent in their profession
5. Provide clear progression and information on the range of opportunities available, via Further and Higher Education where appropriate. Career information within the

land-based engineering industry is available on Lantra's website at www.lantra.co.uk/careers.

Entry conditions for this framework

If you are interested in working in Land-based Engineering, there are many different types of jobs, for example working on a range of vehicles and machines used in farming or specialist vehicles and machines used in horticulture, ground care and sports facilities. By taking an apprenticeship in Land-based Engineering you will be able to work towards one of these jobs.

Entry requirements for the Intermediate Apprenticeship

There are no specific entry requirements for the Level 2 Intermediate Apprenticeship in Land-based Engineering, however, there are qualifications, courses and experience that will help learners understand the sector prior to starting:

- Level 1 Certificate in Land-based Studies
- Level 1 BTEC Award/Certificate in Land-based Studies
- Level 1 Diploma in Work-based Land-based Operations
- GCSEs/A Levels
- Land-based engineering units taken as part of foundation learning
- Have previously worked in, or are currently working within, the industry
- Functional/key skills.

Progression opportunities onto the Land-based Engineering Intermediate Apprenticeship also exist for adult learners who have experience within the land-based engineering industry or who are looking for a career change.

Entry requirements for the Advanced Apprenticeship

The land-based engineering industry wants the entry requirements for the Advanced Apprenticeship to be flexible, so therefore has suggested that one or more of the following should be completed:

- Intermediate Apprenticeship in Land-based Engineering
- Level 2 Diploma in Land-based Technology
- Level 2 Diploma in Work-based Land-based Engineering
- Level 2 NVQ in Land-based Service Engineering
- Practical experience within the industry
- 3 GCSEs (A-C)/A levels.

Initial assessment

Training providers and employers should use an initial assessment process which is fit for

purpose. This will ensure that applicants starting on the Intermediate Apprenticeship/Advanced Apprenticeship have a fair opportunity to demonstrate their ability and to tailor programmes to meet individual needs, recognising prior qualifications and experience.

Recognition of Prior Learning (RPL)

If applicants have units towards the Level 2 and 3 Diploma in Work-based Land-based Engineering these will be reviewed during the initial assessment to see if Recognition of Prior Learning (RPL) can be claimed.

Learners who have completed the 14-19 Diploma may have completed units or short courses which will provide underpinning knowledge towards the Intermediate Apprenticeship, this will be assessed during an initial assessment allowing Recognition of Prior Learning (RPL) where appropriate.

All apprentices must achieve the required Functional/Key skills. Applicants may already hold the equivalent qualifications. Refer to the Transferable skills section for more details.

Level 2

Title for this framework at level 2

Land-based Engineering

Pathways for this framework at level 2

Pathway 1: Land-based Engineering

Level 2, Pathway 1: Land-based Engineering

Description of this pathway

Equipment used in agriculture, horticulture, sports and amenity forestry and fixed plant. A minimum of 124 credits.

Entry requirements for this pathway in addition to the framework entry requirements

No additional pathway entry requirements.

Job title(s)	Job role(s)
Sports/Groundcare Technician	Sports groundcare technicians work on a wide range of specialist vehicles and machines used in horticulture, groundcare and sports facilities. They will help keep equipment in good working order through planned maintenance, as well as carrying out any diagnostic and repair work when required.
Service Technician	Service technicians work on a range of specialist vehicles and machines used in farming, forestry and horticultural businesses. They play an important role in keeping equipment in good working order through planned maintenance, as well as carrying out diagnostic and repair work when required.

Qualifications

Competence qualifications available to this pathway

N/A

Knowledge qualifications available to this pathway

N/A

Combined qualifications available to this pathway

B1 - Level 2 Diploma in Work-based Land-based Engineering					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	501/0302/7	NPTC/C&G	109	893	N/A

Notes on competence and knowledge qualifications (if any)

There is one qualification, Level 2 Diploma in Work-based Land-based Engineering, which includes both competence and knowledge.

The competence and knowledge elements will be achieved through completion of the mandatory and optional units listed within the awarding organisation's (NPTC/C&G) guidance and must total a minimum of 109 credits. At least 17 credits must be achieved through completion of the knowledge units listed below, which are assessed via independent methods. The remaining units of the Diploma contain both competence and knowledge and have integrated assessment methods.

Knowledge units:

- Monitor and maintain health and safety within land-based engineering (7 credits)
- Land-based engineering operations – Applying mechanical principles (5 credits)
- Land-based engineering operations – Understand how to use, service and maintain tools and equipment (5 credits).

Transferable skills (England)

Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

Apprentices must complete or have completed one of the English transferable skills qualifications and one of the Mathematical transferable skills qualifications listed below in order to successfully complete their Apprenticeship and this will carry the QCF five credit values. If they do not have these qualifications as part of their evidence an Apprenticeship certificate cannot be awarded.

English	Minimum level or grade	Credit value
Functional Skills qualification in English	1	5
GCSE qualification in English (with enhanced functional content)	E	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	1	5
GCSE qualification (with enhanced functional content) in Mathematics	E	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT

Apprentices must complete or have completed one of the ICT transferable skills qualifications listed below in order to successfully complete their Apprenticeship and this will carry the QCF five credit values. If they do not have one of these qualifications as part of their evidence an Apprenticeship certificate cannot be awarded.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	1	5
GCSE qualification in ICT (with enhanced functional content)	E	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or...*	1	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	E	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Inclusion of Information and Communications Technology (ICT)

Information Communication Technology Functional/Key skills has been included within the Intermediate Apprenticeship at level 1 as the Land-based Engineering industry group felt that this level of ICT is appropriate for apprentices within the industry. This will be monitored and reviewed in the future.

Progression routes into and from this pathway

The Level 2 Intermediate Apprenticeship in Land-based Engineering is valued by the Land-based Engineering industry as an entry route into the industry.

Progression onto the Land-based Engineering Intermediate Apprenticeship

There are no specific entry requirements to enter the Land-based Engineering Intermediate Apprenticeship, however, there are qualifications or experience that will help learners prior to starting:

- Level 1 Certificate in Land-based Studies
- Level 1 BTEC Award/Certificate in Land-based Studies
- Level 1 Diploma in Work-based Land-based Operations
- GCSEs/A Levels
- Land-based engineering units taken as part of foundation learning
- Have previously worked in, or are currently working within the industry
- Functional/Key skills.

Learners who have completed the 14-19 Diploma may have completed units or short courses which will provide underpinning knowledge towards the Intermediate Apprenticeship, this will be assessed during an initial assessment allowing Recognition of Prior Learning (RPL) where appropriate.

Progression opportunities within the Land-based Engineering Intermediate Apprenticeship also exist for adult learners who have experience within the Land-based Engineering industry or who are looking for a career change.

Progression from a Level 2 Intermediate Apprenticeship

Apprentices successfully completing the Intermediate Apprenticeship have opportunities to progress within the industry by progressing to the Advanced Apprenticeship in Land-based Engineering or other Further Education courses such as:

- Level 3 Certificate/Subsidiary Diploma/Diploma/Extended Diplomas in Land-based Technology
- Level 3 BTEC Award in Agriculture
- Level 3 Certificate in Work-based Agriculture
- Level 3 Diploma in Work-based Agriculture
- Level 3 BTEC Diploma/Extended Diploma in Agriculture.

Typical jobs apprentices will be able to progress onto on completion of the level 2 Intermediate Apprenticeship will depend on the qualifications and experience gained during the Intermediate Apprenticeship but could include: service technician or parts person.

For apprentices who wish to continue their development of skills and qualifications beyond Level 3, opportunities exist to progress further into Higher Education with Foundation

Degrees/Degrees. These are explained in the progression from the Advanced Apprenticeship section.

Further information on careers in the land-based engineering industry including job profiles, progression maps and case studies can be found at www.lantra.co.uk/careers.

Delivery and assessment of employee rights and responsibilities

Employee Rights and Responsibilities (ERR) within the Intermediate Apprenticeship in Land-based Engineering

Within the Intermediate Apprenticeship in Land-based Engineering there are two options for apprentices to choose to gain the ERR element of this framework. This gives apprentices the flexibility to complete the ERR in a way that is most appropriate to them. These two options will be explained to apprentices at the start of their programme during induction.

The two options are:

1. Lantra's Land-based Engineering ERR workbook contains a number of tasks with short answer questions covering the nine outcomes listed below, which learners can complete at their own pace. The workbook can be found on Lantra's website www.lantra.co.uk/ERR.

Evidence of achievement of the ERR workbook must be sent to Lantra before an Intermediate Apprenticeship Completion Certificate can be issued. This must be the sign off sheet at the back of the book which must be signed by the apprentice, employer and training provider.

Or

2. Unit J/602/5253 - Principles of employment rights and responsibilities in the land-based industries (2 credits).

Currently this is an accredited unit offered by British Horseracing Education and Standards Trust (BHEST). Those who complete the ERR unit will need to evidence their achievement with a completion certificate from the awarding organisation.

There are nine national outcomes/standards that all learners must know and/or understand:

1. Knows and understands the range of employer and employee statutory rights and responsibilities under employment law. This should cover the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and health and safety legislation, together with the responsibilities and duties of employers
2. Knows and understands the procedures and documentation in their organisation, which recognise and protect their relationship with their employer. Health and safety and

equality and diversity training must be an integral part of the apprentice's learning programme

3. Knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme
4. Understands the role played by their occupation within their organisation and industry
5. Has an informed view of the types of career pathways that are open to them
6. Knows the types of representative bodies and understands their relevance to their skill, trade or occupation, and their main roles and responsibilities
7. Knows where and how to get information and advice on their industry, occupation, training and career
8. Can describe and work within their organisation's principles of conduct and codes of practice
9. Recognises and can form a view on issues of public concern that affect their organisation and industry.

Level 3

Title for this framework at level 3

Land-based Engineering

Pathways for this framework at level 3

Pathway 1: Land-based Engineering

Level 3, Pathway 1: Land-based Engineering

Description of this pathway

Equipment used in agriculture, horticulture, sports and amenity forestry and fixed plant. A minimum of 75 credits.

Entry requirements for this pathway in addition to the framework entry requirements

There are no additional pathway entry requirements.

Job title(s)	Job role(s)
Demonstrator	A demonstrator of land-based equipment must be able to sell, install and use new and existing land-based equipment. They will need good machine operational skills and a good understanding of all products. They can be a specialist in one or two products such as green crop, grass or tractors.
Independent Technician	Independent technicians may work for a large land-based dealership or be self employed and are usually very skilled in a range of land-based equipment. It is often necessary to go back into industry to refresh skills and stay up-to-date with the latest land-based technology and equipment.
Workshop Supervisor	A workshop supervisor will have a good understanding of land-based products including parts. They will support the workshop manager with daily activities and act as deputy in their absence, also will ensure all customers requirements within the land-based industry are met and resolve any issues.

Qualifications

Competence qualifications available to this pathway

N/A

Knowledge qualifications available to this pathway

N/A

Combined qualifications available to this pathway

B1 - Level 3 Diploma in Work-based Land-based Engineering					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	501/0399/4	NPTC/C&G	60	488	N/A

Notes on competence and knowledge qualifications (if any)

There is one qualification, Level 3 Diploma in Work-based Land-based Engineering, which includes both competence and knowledge.

The competence and knowledge elements will be achieved through completion of the mandatory and optional units listed within the awarding organisation's (NPTC/C&G) guidance and must total a minimum of 60 credits. At least 19 credits must be achieved through completion of the knowledge units listed below, which are assessed via independent methods. The remaining units of the Diploma contain both competence and knowledge and have integrated assessment methods.

Knowledge units:

- Recognise and reduce risks in the land-based engineering work area (4 credits)
- Land-based engineering operation - use calculations (5 credits)
- Maintain electronic control and monitoring systems on land-based equipment (10 credits).

Transferable skills (England)

Functional Skills / GCSE (with enhanced functional content) and Key Skills (England)

Apprentices must complete or have completed one of the English transferable skills qualifications and one of the Mathematical transferable skills qualifications listed below in order to successfully complete their Apprenticeship and this will carry the QCF five credit values. If they do not have these qualifications as part of their evidence an Apprenticeship certificate cannot be awarded.

English	Minimum level or grade	Credit value
Functional Skills qualification in English	2	5
GCSE qualification in English (with enhanced functional content)	C	5
Key Skills qualification in Communication achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE Qualification in English*	C	N/A
A' Level or AS Level qualification in English Language*	E	N/A
A' Level or AS Level qualification in English Literature*	E	N/A
A' Level or AS Level qualification in English Language and Literature*	E	N/A
GCSE or O' Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Language**	A	N/A
A' Level or AS Level qualification in English Literature**	A	N/A
A' Level or AS Level qualification in English Language and Literature**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Mathematics	Minimum level or grade	Credit value
Functional Skills qualification in Mathematics	2	5
GCSE qualification (with enhanced functional content) in Mathematics	C	5
Key Skills qualification in Application of Number achieved either before September 2013 as part of the Apprenticeship, or...*	2	5
GCSE qualification in Mathematics*	C	N/A
A' level or AS Level qualification in Mathematics*	E	N/A
A' Level or AS Level qualification in Pure Mathematics*	E	N/A
A'Level or AS Level qualification in Further Mathematics*	E	N/A
GCSE or O'Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Mathematics**	A	N/A
A' Level or AS Level qualification in Pure Mathematics**	A	N/A
A' Level or AS Level qualification in Further Mathematics**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

ICT

Apprentices must complete or have completed one of the ICT transferable skills qualifications listed below in order to successfully complete their Apprenticeship and this will carry the QCF five credit values. If they do not have one of these qualifications as part of their evidence an Apprenticeship certificate cannot be awarded.

ICT	Minimum level or grade	Credit value
Functional Skills qualification in Information and Communications Technology (ICT)	2	5
GCSE qualification in ICT (with enhanced functional content)	C	5
Key Skills qualification in ICT achieved either before September 2013 as part of the Apprenticeship, or... *	2	5
GCSE qualification in ICT*	C	N/A
A' Level or AS Level qualification in ICT*	E	N/A
GCSE or O'Level qualification in ICT**	A	N/A
A' Level or AS Level qualification in ICT**	A	N/A

* achieved before September 2012 and within the 5 years immediately prior to starting an Apprenticeship.

** achieved before September 2012, otherwise at any time prior to starting the Apprenticeship.

Inclusion of Information and Communications Technology (ICT)

Information Communication Technology Functional/Key skills has been included within the Advanced Apprenticeship at level 2 as the Land-based Engineering industry group felt that this level of ICT is appropriate for apprentices within the industry. This will be monitored and reviewed in the future.

Progression routes into and from this pathway

The land-based engineering industry values the Level 3 Advanced Apprenticeship as an entry/progression route into the industry. From the Level 2 Intermediate Apprenticeship there is direct progression onto Level 3, or learners may progress straight onto the Advanced Apprenticeship from another programme.

Progression onto the Advanced Apprenticeship

The land-based engineering industry wants the entry requirements for the Advanced Apprenticeship to be flexible, so therefore has suggested that one or more of the following should be completed:

- Intermediate Apprenticeship in Land-based Engineering
- Level 2 Certificate/Extended Certificate/Diploma in Land-based Technology
- Level 2 Diploma in Work-based Land-based Engineering
- Level 2 NVQ in Land-based Service Engineering
- Relevant experience and practical skills within the industry
- 3 GCSEs (A-C)/A levels.

14-19 Diploma learners who have completed the Higher Diploma may have completed units within this, which could provide underpinning knowledge and will be assessed during an initial assessment so that Recognition of Prior Learning (RPL) can be applied if appropriate.

Progression opportunities onto the Land-based Engineering Advanced Apprenticeship also exist for adult learners who have experience within the land-based engineering industry or who are looking for a career change.

Progression from the Advanced Apprenticeship

Apprentices successfully completing the Advanced Apprenticeship have opportunities to progress within the industry by progressing to Higher Education courses such as a HNC/D, Foundation Degree or Degree (BSc). Examples of courses available across the UK include:

- Engineering: land-based and construction engineering
- Engineering: machinery dealership management
- Agricultural engineering
- Agriculture and mechanisation
- Agricultural technology
- People or financial management.

For apprentices who wish to continue their development or skills and qualifications beyond Degree level, opportunities exist to progress further in Higher Education with courses such as a Master's Degree (MSc), including:

- MSc Agricultural and Environmental Engineering
- MSc Mechanical Engineering and Management.

Some useful websites to visit regarding Higher Education are www.ucas.co.uk, or www.prospects.ac.uk, both of these have information about courses and providers along with specific information on entry requirements.

Apprentices looking to progress in their employment from the Advanced Apprenticeship may be able to work towards managerial positions. Progression will be dependent on the qualifications and experience an individual possesses, as achievement alone of the Level 3 Advanced Apprenticeship does not guarantee entry to these opportunities.

Further information on careers in the land-based engineering industry including job profiles, progression maps and case studies can be found at www.lantra.co.uk/careers.

UCAS points for this pathway: N/A

Delivery and assessment of employee rights and responsibilities

Employee Rights and Responsibilities (ERR) within the Advanced Apprenticeship in Land-based Engineering

Within the Advanced Apprenticeship in Land-based Engineering there are two options for apprentices to choose to gain the ERR element of this framework. This gives apprentices the flexibility to complete the ERR in a way that is most appropriate to them. These two options will be explained to apprentices at the start of their programme during induction.

The two options are:

1. Lantra's Land-based Engineering ERR workbook contains a number of tasks with short answer questions covering the nine outcomes listed below, which learners can complete at their own pace. The workbook can be found on Lantra's website www.lantra.co.uk/ERR.

Evidence of achievement of the ERR workbook must be sent to Lantra before an Advanced Apprenticeship Completion Certificate can be issued. This must be the sign off sheet at the back of the book which must be signed by the apprentice, employer and training provider.

Or

2. Unit J/602/5253 - Principles of employment rights and responsibilities in the land-based industries (2 credits).

Currently this is an accredited unit offered by British Horseracing Education and Standards Trust (BHEST). Those who complete the ERR unit will need to evidence their achievement with a completion certificate from the awarding organisation.

Apprentices who have undertaken an Intermediate Apprenticeship at Level 2 may have already completed the ERR workbook or they may have undertaken an accredited unit. These apprentices will not be required to repeat this section but they will be required to provide

evidence of completion at the time of certification of the Advanced Apprenticeship.

There are nine national outcomes/standards that all learners must know and/or understand:

1. Knows and understands the range of employer and employee statutory rights and responsibilities under employment law. This should cover the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and health and safety legislation, together with the responsibilities and duties of employers
2. Knows and understands the procedures and documentation in their organisation, which recognise and protect their relationship with their employer. Health and safety and equality and diversity training must be an integral part of the apprentice's learning programme
3. Knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme
4. Understands the role played by their occupation within their organisation and industry
5. Has an informed view of the types of career pathways that are open to them
6. Knows the types of representative bodies and understands their relevance to their skill, trade or occupation, and their main roles and responsibilities
7. Knows where and how to get information and advice on their industry, occupation, training and career
8. Can describe and work within their organisation's principles of conduct and codes of practice
9. Recognises and can form a view on issues of public concern that affect their organisation and industry.

The remaining sections apply to all levels and pathways within this framework.

How equality and diversity will be met

Land-based Engineering industry

The land-based engineering industry employees are mainly males (77%), which is significantly higher than the sector average of 68% (UK) male employees and England's average at 65%. Whilst the industry doesn't preclude females from working in the sector, it is suggested that the imbalance is due to an out-dated perception of land-based engineering employment as traditionally a male dominated industry despite many roles in land-based engineering being carried out by females. It is interesting to note that Further Education enrolments onto Land-based Engineering related learning programmes are also mainly male at an average of 86% compared with work-based learning enrolments 100%.

There are wide range of hands-on roles for people of all ages and abilities together with an increasing need for skilled managerial, high-tech and specialist people. Lantra's research predicts that 110,000 people will be needed over the next decade across the land-based sector.

The industry is diverse and made up of dealerships, manufacturers, the ground care sector, forestry and garden machinery dealerships and manufacturers. There is a wide range of opportunities for land-based engineers, including exciting and rewarding careers in design development, manufacturing, field engineering, service engineering, environmental control, mechanisation and sales and marketing.

Care should be taken by providers and employers that unfair discrimination does not occur.

Apprenticeships are seen as an important route to encourage and facilitate a greater diversity of individuals into the industry. Training providers MUST comply with the Equality Act 2010 to ensure that applicants are not discriminated against in terms of entry to the industry, using the nine legally protected characteristics of:

1. Age
2. Disability
3. Gender
4. Gender reassignment
5. Marriage and civil partnerships
6. Pregnancy and maternity
7. Race
8. Religion and Belief
9. Sexual orientation

Resolutions and further work

The units within the Diploma in Work-based Land-based Engineering have been written in collaboration with partner awarding organisations to ensure that they are free from bias, accessible to all apprentices and are applicable to a wide range of roles and businesses within land-based engineering. Because of the diverse nature of the land-based engineering sector the Diploma in Work-based Land-based Engineering has been developed from these units to allow maximum flexibility and choice within the rules of combination.

Lantra will work with its Land-based Engineering Industry Group to promote the need for skilled managerial, high-tech and specialist people. This will also take into account the need to increase female and ethnic participation in the industry. Activities will include:

- Increasing the awareness of the Land-based Engineering Level 2 and 3 Apprenticeship with specific promotions, in particular focusing on under-represented groups such as females
- Increasing marketing and communications highlighting the opportunities to a wide range of careers within and related to the sector
- Using Lantra's careers web pages to inform careers advisors and apprentices of the opportunities available in the industry.

On and off the job guided learning (England)

Total GLH for each pathway

Total Guided Learning Hours

Intermediate Apprenticeship (Level 2)

The total amount of GLH which includes both on and off-the-job guided learning for the Land-based Engineering Intermediate Apprenticeship is 1211 GLH.

It is expected that apprentices undertaking this pathway would be able to complete the programme within 24 months. The requirement, therefore, is for an apprentice to undertake a minimum of 605.5 hours in each year.

Advanced Apprenticeship (Level 3)

The total amount of GLH which includes both on and off-the-job guided learning for the

Land-based Engineering Advanced Apprenticeship is 778 GLH.

It is expected that apprentices undertaking this pathway would be able to complete the programme within 15 months. The requirement, therefore, is for an apprentice to undertake a minimum of 622 hours in year 1 and 156 in the remaining 3 months of the programme.

Minimum off-the-job guided learning hours

Off-the-job guided learning hours

Off-the-job GLH is defined as time for learning activities away from normal work duties. The amount of off-the-job GLH is shown below:

Intermediate Apprenticeship (Level 2) 6

- Land-based Engineering Intermediate Apprenticeship - a minimum of 734 off-the-job guided learning hours must be delivered over the 24 month period. 367 off-the-job guided learning hours must be delivered within each year. This exceeds the minimum of 30% off-the-job GLH per year.

Advanced Apprenticeship (Level 3)

- Land-based Engineering Advanced Apprenticeship - a minimum of 483 off-the-job guided learning hours must be delivered over the 15 month period. 386 off-the-job guided learning hours must be delivered within the first year, followed by 97 hours in the remaining 3 month period. This exceeds the minimum of 30% off-the-job GLH per year.

How this requirement will be met

Off-the-job guided learning should be:

- Planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager
- Allowed access as and when required by the apprentice either to a tutor, teacher, mentor or manager
- Delivered during contracted working hours
- Delivered through one or more of the following methods: individual and group teaching, e-learning, distance learning, coaching, mentoring, feedback and assessment, collaborative/networked learning with peers, guided study.

Examples of off-the-job training for the Land-based Engineering Apprenticeship are:

- Knowledge of different agricultural, horticultural or forestry and other land-based equipment
- Understanding health and safety requirements with regards to working with large machinery/equipment and lone working
- Key/Functional Skills in Communication/English, Application of Number/Maths and Information and Communication Technology
- First aid training
- Taught sessions contributing to employment rights and responsibilities knowledge
- Induction where activities are covered away from normal work duties.

Evidence of off-the-job GLH:

- Level 2/3 Knowledge based units
- Level 1/2 Functional Skills/Key Skills English/Communication, Maths/Application of Number and Information and Communication Technology - 45 GLH per key/functional skill.
- Employee rights and responsibilities
- Personal Learning and Thinking Skills
- Induction

Off-the-job training must be recorded in a diary, workbook, portfolio or attendance records. This evidence needs to be checked and signed by the assessor and employer.

A completed sign off sheet from the provider that the appropriate off-the-job GLH have been completed, which is available on Lantra's website <http://www.lantra.co.uk/forms>, needs to be sent to Lantra with a completed certification request.

Minimum on-the-job guided learning hours

On-the-job GLH is defined as skills, knowledge and competence gained within normal work duties. The amount of on-the-job GLH is shown below:

Intermediate Apprenticeship (Level 2)

- Land-based Engineering Intermediate Apprenticeship - a minimum of 477 on-the-job guided learning hours must be delivered over a 24 month period. 238.5 on-the-job guided learning hours must be delivered in each year.

Advanced Apprenticeship (Level 3)

- Land-based Engineering Advanced Apprenticeship - a minimum of 295 on-the-job guided

learning hours must be delivered over 15 month period. 236 on-the-job guided learning hours must be delivered in year 1 and 59 GLH in the remaining 3 months.

How this requirement will be met

Job roles within the Land-based Engineering Apprenticeship require a high level of competence and knowledge, which will be undertaken through work-based training, practice and experience.

On-the-job guided learning should:

- Achieve clear and specific outcomes which contribute directly to the successful achievement of the framework and this may include accredited and non-accredited elements of the framework
- Be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager
- Allow access as and when required by the apprentice either to a tutor, teacher, mentor or manager.
- Be delivered during contracted working hours
- Be delivered through one or more of the following methods: individual and group teaching, e-learning, distance learning, coaching, mentoring, feedback and assessment, collaborative/networked learning with peers, guided study.

Examples of on-the-job guided learning that a learner will be focusing on within the workplace for the Land-based Engineering Apprenticeship are:

- Safe use of equipment and machines
- Environmental awareness
- Employability skills
- Team working and communications
- Task specific workplace instructions or team briefings
- Taught sessions by the workplace line manager/instructor as opposed to formal planned taught sessions off-the-job on employee rights and responsibilities knowledge
- Induction where activities are covered within normal work duties
- Coaching of learners.

Evidence of on-the-job guided learning

- Level 2/3 Diploma in Work-based Land-based Engineering
- Level 1/2 Functional Skills/Key Skills in English/Communication and Maths/Application of

Number and Information and Communication Technology - 45 GLH per key/functional skill.

On-the-job GLH must be recorded in a diary, workbook, portfolio, attendance records, job cards, draft invoices and timesheets. This evidence needs to be checked and signed by the assessor and employer.

A completed sign off sheet from the provider that the appropriate on-the-job GLH have been completed, which is available on Lantra's website www.lantra.co.uk/forms, needs to be sent to Lantra when claiming Apprenticeship certification.

Personal learning and thinking skills assessment and recognition (England)

Summary of Personal Learning and Thinking Skills

This section sets out the requirements for completion of all the Personal Learning and Thinking Skills (PLTS) outcomes and then goes on to give more detailed information about how each one is to be evidenced.

Within the Land-based Engineering Apprenticeship there are many opportunities for learners to demonstrate and collect evidence for each of the PLTS outcomes through the units within the Diploma in Work-based Land-based Engineering qualification. The awarding organisation (C&G/NPTC) has developed with Lantra a Record of Achievement, which is based on quality assured evidence collected throughout the Apprenticeship. This ensures that the PLTS outcomes are formally assessed.

Lantra requires learners to complete the Land-based Engineering PLTS Record of Achievement and providers/assessors will need to check the evidence provided and complete the sign off sheet that can be found on Lantra's website www.lantra.co.uk/apprenticeships.

Apprentices who have already undertaken an Intermediate Apprenticeship at Level 2 may have already completed PLTS. These apprentices will not be required to repeat this section but they will be required to provide evidence of completion at the time of certification of the Advanced Apprenticeship.

It will be the responsibility of the centre to ensure this information is retained for the internal verifier to ensure quality assurance.

The completed sheets must be sent into Lantra when claiming for the Apprenticeship certificate.

Creative thinking

Outcomes to be achieved for creative thinking are:

1. Generate ideas and explore possibilities
2. Ask questions to extend their thinking
3. Connect their own and others' ideas and experiences in inventive ways
4. Question their own and others' assumptions
5. Try out alternatives or new solutions and follow ideas through
6. Adapt ideas as circumstances change.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering there will be opportunities for apprentices to provide evidence for the achievement of all the creative thinking outcomes listed above when completing risk assessments within the land-based engineering industry. They may also be achieved as part of units such as: monitor and maintain health and safety within a land-based engineering work area, or land-based engineering operations – applying mechanical principles. There are also opportunities at Level 3 with units such as land-based engineering operations – material preparation, shaping and assembling, land-based engineering operations – carry out servicing and maintenance on land-based equipment or provide customer care within land-based engineering operations.

Creative thinking skills are covered by other units within the Diploma in Work-based Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Independent enquiry

Outcomes to be achieved for independent enquiry:

1. Identify questions to answer and problems to resolve
2. Plan and carry out research, appreciating the consequences of decisions
3. Explore issues, events or problems from different perspectives
4. Analyse and evaluate information, judging its relevance and value
5. Consider the influence of circumstances, beliefs and feelings on decision and events
6. Support conclusions, using reasoned arguments and evidence.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering Level 2 there will be opportunities for apprentices to provide evidence for the achievement of all the independent enquiry outcomes listed above when completing risk assessments within the land-based engineering industry. They may also be achieved as part of units such as land-based engineering operations – understand how to use, service and maintain tools and equipment or establish and maintain effective working relationships with others. For Level 3 there are opportunities within units such as maintain electronic control and monitoring systems on land-based equipment or service and repair hydraulic systems and components on land-based equipment.

Independent enquiry skills are covered by other units within the Diploma in Work-based Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Reflective learning

Outcomes to be achieved for reflective learning:

1. Assess themselves and others, identifying opportunities and achievements
2. Set goals with success criteria for their development and review work
3. Review progress, acting on the outcomes
4. Invite feedback and deal positively with praise, setbacks and criticism
5. Evaluate experiences and learning to inform future progress
6. Communicate their learning in relevant ways for different audiences.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering Level 2 there will be opportunities for apprentices to provide evidence for the achievement of all the reflective learning outcomes listed above when completing progress logs within the land-based engineering industry. They may also be achieved as part of units such as land-based engineering operations – perform thermal joining and cutting processes or maintain and develop personal performance. For Level 3 there are opportunities within units such as inspect and test land-based machinery and equipment.

Reflective learning skills are covered by other units within the Diploma in Work-based

Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Team working

Outcomes to be achieved for team working:

1. Collaborate with others to work towards common goals
2. Reach agreements, managing discussions to achieve results
3. Adapt behaviour to suit different roles and situations, including leadership roles
4. Show fairness and consideration to others
5. Take responsibility, showing confidence in themselves and their contribution
6. Provide constructive support and feedback to others.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering Level 2 there will be opportunities for apprentices to provide evidence for the achievement of all the team working outcomes listed above within the land-based engineering industry. They may also be as part of units such as monitor and maintain health and safety within a land-based engineering work area or establish and maintain effective working relationships with others. For Level 3 there are opportunities within units such as recognise and reduce risks in the land-based engineering work area.

Team working skills are covered by other units within the Diploma in Work-based Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Self management

Outcomes to be achieved for self-management:

1. Seek out challenges or new responsibilities and show flexibility when priorities change
2. Work towards goals, showing initiative, commitment and perseverance
3. Organise time and resources, prioritising actions
4. Anticipate, take and manage risks

5. Deal with competing pressures, including personal and work-related demands
6. Respond positively to change, seeking advice and support when needed
7. Manage their emotions, and build and maintain relationships.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering, there will be opportunities for apprentices to provide evidence for the achievement of all the self-management outcomes listed above when completing units such as land-based engineering operations – understand how to use, service and maintain tools and equipment, service and repair hydraulic systems and components on land-based equipment or provide customer care within land-based engineering operations.

Self-management skills are covered by other units within the Diploma in Work-based Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Effective participation

Outcomes to be achieved for effective participation:

1. Discuss issues of concern, seeking resolution where needed
2. Present a persuasive case for action
3. Propose practical ways forward, breaking these down into manageable steps
4. Identify improvements that would benefit others as well as themselves
5. Try to influence others, negotiating the balancing diverse views to reach workable solutions
6. Act as an advocate for views and beliefs that may differ from their own.

In the delivery and assessment of the Diploma in Work-based Land-based Engineering, there will be opportunities for apprentices to provide evidence for the achievement of all the effective participation outcomes listed above when completing progress logs or within units such as maintain and develop personal performance, service and repair electrical systems on land-based equipment or inspect and test land-based machinery and equipment.

Effective participation skills are covered by other units within the Diploma in Work-based

Land-based Engineering and can be found within the Record of Achievement. There may also be other units which will provide evidence and these can be included and noted on the Record of Achievement.

Additional employer requirements

For both the Intermediate Apprenticeship and Advanced Apprenticeship

All learners are advised to complete at least one of the following, although it is not a requirement of the Specification of Apprenticeship Standards for England (SASE). The additional employer requirements will enhance and facilitate progression within the land-based engineering industry:

- Emergency First Aid (one-day course approved by the Health and Safety Executive)
- Basic Tractor Driving
- Safe Use of Abrasive Wheel Machines
- Safe Use of Pedestrian Controlled Two-Wheeled Tractors
- Safe Use of Turf Maintenance Equipment
- All-Terrain Vehicle Handling
- Approved Manufacturers' Technical Courses.

Additional Employer Requirements are not required for certification.

apprenticeship
FRAMEWORKS ONLINE

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www.afo.sscalliance.org