

apprenticeship FRAMEWORK

Rail Engineering Overhead Line Construction (Wales)

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Rail Engineering Overhead Line Construction (Wales)

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Framework summary

Rail Engineering Overhead Line Construction

Foundation Apprenticeship in Rail Engineering Overhead Line Construction

Pathways for this framework at level 2 include:

Pathway 1: Overhead Line Construction

Competence qualifications available to this pathway:

C1 - EAL Level 2 NVQ Diploma in Rail Engineering Overhead Line Construction (QCF)

Knowledge qualifications available to this pathway:

K1 - City & Guilds Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)

K2 - City & Guilds Level 2 Diploma in Engineering (QCF)

K3 - EAL Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)

K4 - Pearson Edexcel Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)

K5 - Pearson BTEC Level 2 Extended Certificate in Engineering (Specialist: Manufacturing Engineering) (QCF).

K6 - City & Guilds Level 2 Certificate in Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Rail Engineering Overhead Line Construction

Apprenticeship in Rail Engineering Overhead Line Construction

Pathways for this framework at level 3 include:

Pathway 1: Overhead Line Construction

Competence qualifications available to this pathway:

C1 - EAL Level 3 NVQ Diploma in Rail Engineering Overhead Line Construction (QCF)

Knowledge qualifications available to this pathway:

K1 - EAL Level 3 Diploma In Installation and Maintenance of Engineering Assets (QCF)

K2 - Pearson BTEC Level 3 Certificate in Engineering (QCF)

K3 - Pearson BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K4 - City & Guilds Level 3 Diploma in Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Framework information

Information on the Publishing Authority for this framework:

SEMTA

The Apprenticeship sector for occupations in science, engineering and manufacturing technologies.

Issue number: 1	This framework includes:
Framework ID: FR02514	Level 2 Level 3
Date this framework is to be reviewed by: 31/05/2015	This framework is for use in: Wales

Short description

The purpose of the Foundation and Apprenticeship - Rail Engineering Overhead Line Construction is to train apprentices and upskill the existing workforce to the industry recognised standard of competency at Level 2 & 3 in the rail infrastructure engineering discipline of overhead line construction. The pathways within this framework cover semi-skilled and fully skilled job roles in these areas. Overhead line workers (Level 2) and skilled technicians (Level 3) play a key role in ensuring that the infrastructure systems that make up the overhead line equipment in the rail network are installed to the correct standards to ensure the safe and efficient running of the railway system.

Contact information

Proposer of this framework

Semta has assumed responsibility for Rail Engineering from People 1st on behalf of Go Skills. We have been principally working with the Overhead Line Equipment Construction (OLEC) working group made up of the National Skills Academy for Rail Engineering (NSARE), RIA (Rail Industry Association) and Network Rail (who represent the bulk of companies working in the rail engineering sector), together with Amey, Carillion Rail, Balfour Beatty Rail, Bridgeway Consulting, Bourne Rail, UL Power Networks, Akona and Aspire.

Consultation also included the following companies (all involved in UK wide Rail Overhead line electrification projects) - Arup, Babcock, Colas Rail Ltd, Costain Group, Keltbray Aspire Rail, Morgan Sindall, SPL Powerlines, Volker Rail, Alstom Transport, Siemens, FLI Structures and Furrer+Frey GB.

Developer of this framework

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Purpose of this framework

Summary of the purpose of the framework

Semta has just assumed responsibility by agreement with employers and People 1st SSC for the Rail Engineering footprint. This will include the review and development of Rail Engineering National Occupational Standards (NOS) from which new and revised qualifications will be developed. Semta will also take responsibility for the development, review and issue (where applicable) of current and new Apprenticeship Frameworks in each nation. Responsibility for Apprenticeship Certification for SASW Frameworks has also been transferred to Semta.

The definition of Overhead Line Construction is an arrangement of wires, suspended over the railway line, for supplying electricity to electric trains, together with associated fittings, insulators and other attachments including feeders, autotransformer feeders, overhead line switches, jumpers and return conductors. This equipment together with its supporting structures, foundations, lineside switching stations is described collectively as Overhead Line Equipment.

Over the last 10 years there has been very little new electrification on the UK mainline railway and emphasis has been on the maintenance of the existing electrical infrastructure. Consequently whilst there are existing NOS and qualifications covering those roles associated with maintenance, there was nothing in place until recently for new build and construction which will be created over the coming years as a result of significant planned investment.

The railway industry published its Strategic Business Plan on 8th January 2013. This details the proposed investment in the railway infrastructure to meet government's requirements as set out in the High Level Output Statement (HLOS) issued in July 2012, for the period 2014 to 2019 (known as Control Period 5). The plan includes electrification investment of over £4bn in the next five years, of which over £500m is for Scottish routes and over **£400m is for Wales**.

Major new electrification schemes will include the Great Western line from **Maidenhead to Cardiff and then on to Swansea, Welsh Valley lines**, Midland Mainline, Thames Valley lines, Oxford to Nuneaton and Bedford and the Transpennine. In addition there are plans for converting existing DC 3rd rail systems to overhead AC systems. This is all positioned as the start of a rolling programme of electrification – new and upgraded - which will take 20+ years to achieve.

During 2012 NSARE (National Skills Academy for Railway Engineering) undertook a major skills forecasting exercise for the industry – taking into account the upcoming investments as outlined in the HLOS. Forecasts indicate that in the next five years around 1,000 new people will be needed in the electrification workforce - of these 50% will need to be qualified at level 3. Around three-quarters of these are to meet the additional workload whilst the remaining

quarter are to replace anticipated retirees/leavers. This represents some 30% of the current workforce.

Maintaining and expanding the rail infrastructure (electrification) in England and Wales is of critical importance if we are to remain economically viable as nations. Based on the skills forecasting analysis of the existing electrification workforce of 44,000 people (50% sample size) last year, 880 people are in Wales and 5,280 are in Scotland.

Once the future electrification schemes in Wales are complete we anticipate several hundred jobs to be created locally to maintain the new asset – securing ongoing work beyond construction.

Aims and objectives of this framework (Wales)

The aim of this framework is to train new entrants and upskill the existing workforce to the industry recognised standard of competence in the construction of overhead rail lines. The framework will also aim to meet current and future skills needs by supporting retention, motivation and performance, providing apprentices with the skills, underpinning knowledge and transferable skills required to carry out a wide variety of defined operative/semi-skilled, craft and technician roles through the pathways described.

Further objectives are to:

- provide a structures training programme to develop and upskill the workforce
- provide training to a common national standard that enables individuals to move between employers in the rail industry
- attract new people into the Welsh rail sector from a diverse range of backgrounds to replace those who naturally leave the sector and those 11% who are 60+ who will retire sometime in the next 5 years
- provide apprentices with the relevant operator, semi-skilled, craft or technician skills required by Welsh rail engineering employers
- ensure apprentices can undertake overhead line construction operations safely and effectively
- improve overall operational performance through improving skills
- help improve recruitment and retention rates within the industry by offering appropriate career progression
- improve productivity rates and thus profitability (GVA per employee)
- tackle the diversity issue within the sector, especially under representation of women (only 4.4% of the workforce is female, compared to 50% for all sectors in Wales).
- increase the overall level of participation in apprenticeship training from its current 9%
- increase the level of general literacy and numeracy through Essential Skills Wales
- develop apprentices' employability and skills making them more attractive to all employers whichever career they choose.

Entry conditions for this framework

The Level 2 framework covers occupations in one pathway. Employers are looking to attract applicants who want to apply engineering principles, enjoy solving problems, and are willing to work shifts.

As a guide, the Foundation Apprenticeship in Overhead Line Construction is suitable for applicants who have four relevant GCSEs grades D to E in English, Maths and Sciences. The selection process on behalf of employers may include initial assessment where applicants will be asked if they have any qualifications or experience that can be accredited against the requirements of the apprenticeship. They may also be required to take tests in basic numeracy and literacy, communication skills and spatial awareness. There may also be an interview to ensure applicants have selected the right occupational sector and are motivated to become an apprentice, as undertaking an apprenticeship is a major commitment for both the individual and the employer.

Learners who have completed the Welsh Baccalaureate may have completed units or short courses which will provide underpinning knowledge towards the Foundation Apprenticeship. This will be assessed during an initial assessment allowing Recognition of Prior Learning (RPL), where appropriate.

Employers would be interested in applicants who:

- are keen and motivated to work in a rail engineering environment or
- are willing to undertake a course of training both on-the-job and off-the-job and apply this learning in the workplace or
- have previous work experience or employment in the rail/electrical/power distribution sector or
- have completed a Pathways to Apprenticeship programme in a relevant discipline or
- have GCSEs grades D to E in English, Maths and Science or
- have a Welsh Baccalaureate or
- without formal qualifications can show, possibly through a portfolio, that they have the potential to complete this apprenticeship, through having previously worked in the sector at Level 2 or
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications or
- have completed tests in basic numeracy, literacy and communication skills and have spatial awareness and
- are able and prepared to work outside often in challenging weather environments.

Due to the safety critical nature of the role, applicants should be prepared to:

- go through checks for physical health including hearing and eyesight (colour blindness)

- be tested for drugs and alcohol abuse
- undergo checks through the Criminal Records Bureau.

Initial Assessment

Training providers/colleges and employers will use initial assessment to ensure that applicants have a fair opportunity to demonstrate their ability and to tailor programmes to meet individual needs, recognising prior qualifications and experience.

Applicants may need to attend a training course covering the basic training that provides sufficient knowledge and hands-on practical skills required for undertaking basic overhead line equipment construction activities safely and effectively under direction. See the Additional Employer Requirements section for more details.

Rules to avoid the need to repeat qualifications

To avoid the need to repeat qualifications, processes exist to ensure applicants with prior knowledge, qualifications and/or experience are not disadvantaged. Colleges, Training Providers and Awarding Organisations will be able to advise applicants on the current rules for accrediting prior learning (APL) and experience. There are no relaxations or proxies for any qualifications specified in a framework in SASW, however providers are encouraged to identify additional on-the-job training programmes that customise the learning to the new workplace.

Essential Skills Wales

Key skills are accepted as alternatives to Essential Skills Wales qualifications, provided the Key Skills Certificate(s) attained are at the same level(s) as those specified for Essential Skills Wales Qualifications.

Essential Skills Wales qualifications achieved in the context of the Welsh Baccalaureate Qualification (WBQ) can be accepted, provided the specific certification of the title(s) and level(s) of those ESW qualifications is provided. The WBQ certificate itself does not provide this specific evidence.

The industry via the OLEC partners have indicated that ICT is not required for this job role at level 2.

Knowledge qualifications

If applicants already have one of the knowledge qualifications or individual QCF units at Level 2 (see knowledge qualifications page) before starting their apprenticeship, they may count this and will not have to repeat the qualification providing they have achieved this qualification within five years of starting their apprenticeship. For example, they may have already achieved the knowledge element as part of the Welsh Baccalaureate. Further more the hours that were spent gaining the qualification may be counted towards the total hours for the apprenticeship.

The Welsh Baccalaureate with its Core programme of personal learning and development studies along with options such as NVQs, Vocational Qualifications and Principal Learning (Engineering World, Discovering Engineering Technology and Engineering the Future) could provide significant opportunities for accreditation of Prior Learning against the components of this framework. The same processes can be applied to GCSEs. Training providers/colleges should be able to advise entrants on the potential reduction in programme duration that could result from accrediting previous qualifications and experience.

Competence qualifications

The competence qualification in this framework is new so applicants will not have achieved this qualification in its entirety but may have achieved units towards it before starting their apprenticeship. The relevant Awarding Organisation will be able to advise you on the viability of these with regard to APL.

It is important however that there is agreement between the employer and the apprentice that the applicant is currently competent.

As is the case with the knowledge element above the hours that were spent gaining the competence qualification may be counted towards the total hours for the apprenticeship.

Wider Key Skills

Wider Key Skills qualifications previously attained in the context of the Welsh Baccalaureate Qualification (WBQ) can be accepted, provided the specific proof of certification of the title(s) and level(s) of those qualifications is provided. The WBQ certificate does not provide this specific evidence.

Prior experience in the sector

Applicants that are already working in the sector or who have recently worked in the sector at the appropriate level can apply to have their experience formally recognised by an Awarding Organisation and this could count towards the qualification(s) in this framework.

The Level 3 framework offers a range of occupations in one pathway. Employers would welcome applicants from a wide and diverse background and wish to attract applicants who have an interest to work in a rail engineering environment.

As a guide, the Apprenticeship in Rail Engineering Overhead Line Construction is suitable for applicants who have four GCSEs grade C or above including Maths, English, and Science. This is not a hard and fast rule but may vary according to the pathway chosen and the suitability of individual applicants.

Learners who have completed the Welsh Baccalaureate may have completed units or short

courses which will provide underpinning knowledge towards the Apprenticeship. This will be assessed during an initial assessment allowing Recognition of Prior Learning (RPL), where appropriate.

Employers would be interested in applicants who:

- have completed a Foundation Apprenticeship at Level 2 in the relevant overhead line construction occupational discipline or
- have GCSEs in English, Maths and Science - grade C or above or
- have a Welsh Bacalaureate or
- have previous work experience or employment in the rail/electrical/power distribution sector or
- without formal qualifications can show, possibly through a portfolio, that they have the potential to complete this apprenticeship, through having previously worked in the rail/electrical/power distribution sector at Level 3 or
- are willing to undertake a course of training both on-the-job and off-the-job and apply this learning in the workplace or
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications
- are keen and motivated to work in a rail engineering environment
- are able and prepared to work outside often in challenging weather environments
- have the ability to follow instructions and diagrams
- have literacy and numeracy skills to work with data
- are a good team worker, who can also work under own initiative

Due to the safety critical nature of the role, applicants should be prepared to:

- go through checks for physical health including hearing and eyesight (colour blindness)
- be tested for drugs and alcohol abuse
- undergo checks through the Criminal Records Bureau.

Selection Process

The selection process on behalf of employers may include initial assessment activity such as tests in basic numeracy, literacy, communication skills and spatial awareness. There may also be an interview to ensure potential apprentices have selected the right occupational sector to meet their needs and expectations and those of their employer, as undertaking an apprenticeship is a major commitment for both the individual and the employer.

New applicants may need to attend a training course that provides sufficient knowledge and hands-on practical skills required for undertaking basic overhead line equipment construction activities safely and effectively. See the Additional Employer Requirements section for more details.

Rules to avoid the need to repeat qualifications

To avoid the need to repeat qualifications, processes exist to ensure applicants with prior knowledge, qualifications and/or experience are not disadvantaged. Colleges, Training Providers and Awarding Organisations will be able to advise applicants on the current rules for accrediting prior learning (APL) and experience. There are no relaxations or proxies for any qualifications specified in a framework in SASW, however, providers are encouraged to identify additional on-the-job training programmes that customise the learning to the new workplace.

Essential Skills Wales

Key skills are accepted as alternatives to Essential Skills Wales qualifications, provided the Key Skills Certificate(s) attained are at the same level(s) as those specified for Essential Skills Wales Qualifications. However, Key Skills can not be completed as part of this framework.

Essential Skills Wales qualifications achieved in the context of the Welsh Baccalaureate Qualification (WBQ) can be accepted, provided the specific certification of the title(s) and level(s) of those ESW qualifications is provided. The WBQ certificate itself does not provide this specific evidence.

Knowledge qualifications

If applicants already have one of the knowledge qualifications or individual QCF units at Level 3 (see knowledge qualifications page) before starting their apprenticeship, they may count this and will not have to repeat the qualification providing they have achieved this qualification within five years of starting their apprenticeship. For example, they may have already achieved the knowledge element as part of the Welsh Baccalaureate. Further more the hours that were spent gaining the qualification may be counted towards the total hours for the apprenticeship.

The Welsh Baccalaureate with its Core programme of personal learning and development studies along with options such as NVQs, Vocational Qualifications and Principal Learning (Engineering World, Discovering Engineering Technology and Engineering the Future) could provide significant opportunities for accreditation of Prior Learning against the components of this framework. The same processes can be applied to GCSEs. Training providers/colleges should be able to advise entrants on the potential reduction in programme duration that could result from accrediting previous qualifications and experience.

Competence qualifications

The competence qualification in this framework is new so applicants will not have achieved this qualification in its entirety but may have achieved units towards it before starting their apprenticeship. The relevant Awarding Organisation will be able to advise you on the viability of these with regard to APL.

It is important however that there is agreement between the employer and the apprentice that the applicant is currently competent.

As is the case with the knowledge element above the hours that were spent gaining the competence qualification may be counted towards the total hours for the apprenticeship.

Wider Key Skills

Wider Key Skills qualifications previously attained in the context of the Welsh Baccalaureate Qualification (WBQ) can be accepted, provided the specific proof of certification of the title(s) and level(s) of those qualifications is provided. The WBQ certificate does not provide this specific evidence.

Prior experience in the sector

Applicants that are already working in the sector or who have recently worked in the sector at the appropriate level can apply to have their experience formally recognised by an Awarding Organisation and this could count towards the qualification(s) in this framework.

Level 2

Title for this framework at level 2

Foundation Apprenticeship in Rail Engineering Overhead Line Construction

Pathways for this framework at level 2

Pathway 1: Overhead Line Construction

Level 2, Pathway 1: Overhead Line Construction

Description of this pathway

Pathway duration approximately 18 months depending on the qualification and unit options selected

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 119 credits

Pathway with minimum total learning hours = 769 training hours

- Competence = minimum 268 hours/ minimum 67 credits
- Knowledge = minimum 180 hours (smallest technical certificate training hours)
- Knowledge = minimum 28 credits (smallest technical certificate credit)
- Essential Skills Wales (notional value 60 hours x 2) = 120 hours /12 credits
- Wider Key Skills = 120 hours/ 2 x 6 = 12 credits
- Mentoring 66 weeks x 1 hour/week = 66 hours
- ERR = 15 minimum hours

Year 1 = 513 Hours Year 2 = 256 Hours

Minimum credit value - 119 credits

Minimum off-the-job training hours = 501 training hours

Knowledge - Pearson BTEC Level 2 Extended Certificate in Engineering (Specialist: Manufacturing Engineering) (QCF) (180 training hours) plus 321 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Pathway with maximum total learning hours = 949 training hours

- Competence = 268 hours/ 67 credits
- Knowledge = maximum 360 hours (based on the largest technical certificate training hours)
- Knowledge = maximum 42 credits (based on the largest technical certificate credit)

- Essential Skills Wales (notional value 60 hours x 2) = 120 hours /12 credits
- Wider Key Skills = 120 hours/ 2x6 = 12 credits
- Mentoring 66 weeks x 1 hour/week = 66 hours
- ERR = 15 minimum hours

Year 1 = 633 Hours Year 2 = 316 Hours

Maximum credit value = 133 credits

Maximum off-the-job training hours = 681 training hours

Knowledge - City & Guilds Level 2 Diploma in Engineering (QCF) (360 training hours) plus 311 additional training hours for Essential Skills Wales, Wider key Skills, ERR and Mentoring.

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

There are no additional requirements other than the general entry conditions

Job title(s)	Job role(s)
Overhead Line Construction Linesperson	Work under direction to undertake construction, renewal, enhancements and modification of overhead line systems. Follow instructions to assemble OHL components in line with detailed specification, using lifting and access equipment while working at heights

Qualifications

Competence qualifications available to this pathway

C1 - EAL Level 2 NVQ Diploma in Rail Engineering Overhead Line Construction (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	601/2609/7	EAL	67	268	N/A

Knowledge qualifications available to this pathway

K1 - City & Guilds Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	501/2174/1	City & Guilds	28	280	N/A

K2 - City & Guilds Level 2 Diploma in Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/0881/7	City & Guilds	42	360	N/A

Knowledge qualifications available to this pathway (cont.)

K3 - EAL Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	601/0160/X	EAL	28	280	N/A

K4 - Pearson Edexcel Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/3190/6	Pearson	28	280	N/A

K5 - Pearson BTEC Level 2 Extended Certificate in Engineering (Specialist: Manufacturing Engineering) (QCF).					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	500/8270/X	Pearson	30	180	N/A

K6 - City & Guilds Level 2 Certificate in Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K6a	600/0880/5	City & Guilds	35	300	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

The competence qualification, C1, has been developed to support job roles in overhead line construction.

K1 - K6 provide general theoretical underpinning engineering knowledge to support C1.

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications support key areas of technical knowledge development needed for apprentices in the overhead line equipment construction industry to carry out their duties in a safe and efficient manner. Delivery methods for knowledge based qualifications may vary, from a conventional college based environment, to delivery through a combination of this and written/web-based/distance learning materials.

Employers have agreed that their apprentices should have access to a number of different technical knowledge qualifications that specify varying degrees of theoretical concepts required, including a broad range of mathematical, scientific and engineering principles and processes.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	1	6
Application of numbers	1	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression routes into this pathway

Entrants to this pathway are likely to primarily be school leavers who have completed their GCSE or Welsh Baccaalaureate studies, and in some cases relevant vocational activity such as a Pre-Apprenticeship programme or extended work experience.

More specifically they may:

- have previous employment or work experience in the rail/electrical/power distribution sector or
- have GCSE's in English, Maths and Science (grade D to E or higher) or
- have a Welsh Baccaalaureate or
- be keen and motivated to work in the rail engineering sector or
- be practically minded and want to work with their hands or
- be willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace or
- have completed tests in basic numeracy, literacy and communications skills and have spatial awareness.

Other entrants may have experience from working in the sector, and are now seeking to become qualified by undertaking an apprenticeship programme. Particular interest would be shown to those applicants who have had previous work experience or employment in the rail/electrical/power distribution sector.

Progression routes from this pathway

On completion of the Apprenticeship, individuals may continue working as Overhead Line Construction workers or go on to become team leaders and supervisors . Alternatively completion of the Level 2 Foundation Apprenticeship in Rail Engineering Overhead Line

Construction may support progression onto the Level 3 Apprenticeship in Rail Engineering Overhead Line Construction.

Useful websites:

<http://www.nsare.org>

<http://www.riagb.org.uk/content-page.php?pid=44>

and individual rail company websites

and individual company websites

Employee rights and responsibilities

There are a variety of methods of achieving ERR as set out below:

Method 1 - Qualifications

1a. Excellence, Achievement and Learning Ltd. (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements.

Qualification details:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

1b. Pearson have produced a stand-alone qualification that can cover all 9 outcomes of ERR requirements if Unit 2 is achieved.

Qualification details:

Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment (QCF)

QCF qualification ref no: 501/1793/2

Credit value: 4 credits

Guided learning hours: 40

Please note: The Pearson BTEC Level 2 Award consists of a mandatory unit as an introduction to apprenticeships. Apprentices must then complete Unit 2 which covers the ERR requirements (included within content). This qualification is designed to be assessed in the context of the sector relevant to the apprenticeship framework being undertaken (ie overhead line construction in this case).

1c. City & Guilds have produced a stand-alone qualification that can cover all 9 outcomes of ERR requirements.

Qualification details:

City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work (QCF)

QCF qualification ref no: 600/2819/1

Credit value: 2 credits

Guided learning hours: 15

Please note: Although it may be possible to complete ERR in a minimum of 15 Guided learning hours (GLH), Semta recommend a minimum of 40 GLH are taken to complete the ERR requirements.

These qualifications will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

Apprentices achieving the qualifications will have demonstrated that they have the underpinning knowledge relevant for the rail engineering overhead line construction environment which satisfies the Specification for Apprenticeship Standards for Wales.

Method 2 - Workbook

Semta has produced an Apprentice ERR workbook that is available from:

customercare@eal.org.uk

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their *company induction where significant amounts of information towards the national outcomes will be covered. The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

***Please note:** All apprentices must receive a company induction programme.

At present, Wales has a paper based system to claim final certification of the apprenticeship framework, although this will soon be changed to an electronic based system. However in both cases one of the following forms of ERR evidence will be required:

- a qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

or

- a qualification certificate for Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment (QCF) **which must include achievement of Unit 2**

or

- a qualification certificate for City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work (QCF)

or

- a completed and countersigned Semta ERR workbook

Level 3

Title for this framework at level 3

Apprenticeship in Rail Engineering Overhead Line Construction

Pathways for this framework at level 3

Pathway 1: Overhead Line Construction

Level 3, Pathway 1: Overhead Line Construction

Description of this pathway

Pathway duration approximately 36 months depending on the qualification and unit options selected

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 194 credits

Pathway with minimum total learning hours = 1,014 training hours

- Competence = minimum 387 hours/ minimum 134 credits
- Knowledge = minimum 180 hours (smallest technical certificate training hours)
- Knowledge = minimum 30 credits (smallest technical certificate credit)
- Essential Skills Wales (notional value 60 hours x 3) = 180 hours /18 credits
- Wider Key Skills = 120 hours / 2 x 6 = 12 credits
- Mentoring 132 weeks x 1 hour/week = 132 hours
- ERR = 15 minimum hours

Year 1 = 338 Hours Year 2 = 338 Hours Year 3 = 338 Hours

Minimum off-the-job training hours = 627 training hours

Knowledge - Pearson BTEC Level 3 Subsidiary Diploma in Engineering (QCF) (180 training hours) plus 447 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Minimum on-the-job training hours = 387 training hours and is evidenced by completion of the Level 3 NVQ Diploma in Overhead Line Construction (QCF)

Minimum credit value = 194 credits

Pathway with maximum total learning hours = 1,314 training hours

- Competence = 387 hours/ 134 credits
- Knowledge = maximum 480 hours (based on the largest technical certificate training hours)
- Knowledge = maximum 60 credits (based on the largest technical certificate credit)
- Essential Skills Wales (notional value 60 hours x 3) = 180 hours /18 credits
- Wider Key Skills = 120 hours / 2 x 6 = 12 credits
- Mentoring 132 weeks x 1 hour/week = 132 hours
- ERR = 15 minimum hours

Year 1 = 438 Hours Year 2 = 438 Hours Year 3 = 438 Hours

Maximum off-the-job training hours = 927 training hours

Knowledge - City & Guilds Level 3 Diploma in Engineering (QCF) (480 training hours) plus 447 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Minimum on-the-job training hours = 387 training hours and is evidenced by completion of the Level 3 NVQ Diploma in Overhead Line Construction (QCF)

Maximum credit value = 224 credits

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

There are no additional requirements other than the general entry conditions

Job title(s)	Job role(s)
Senior Overhead Line Construction Linesperson	Lead the team undertaking construction, renewal, enhancement and modification of overhead line systems. Check and confirm installation is carried out correctly, ensure staff operate in a safe manner especially when working at heights in a restricted space. Operate access and lifting equipment safely
Overhead Line Technical Engineer	In charge of the Overhead Line Construction Linespeople. Contribute to the detailed planning of construction, renewal, enhancement and modification of overhead line systems. Confirm the systems are installed to specification and maintain comprehensive construction records

Qualifications

Competence qualifications available to this pathway

C1 - EAL Level 3 NVQ Diploma in Rail Engineering Overhead Line Construction (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	601/2610/3	EAL	134	387	N/A

Knowledge qualifications available to this pathway

K1 - EAL Level 3 Diploma In Installation and Maintenance of Engineering Assets (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	601/0161/1	EAL	46	350	N/A

K2 - Pearson BTEC Level 3 Certificate in Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8156/1	Pearson	30	180	N/A

Knowledge qualifications available to this pathway (cont.)

K3 - Pearson BTEC Level 3 Subsidiary Diploma in Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/7841/0	Pearson	60	360	N/A

K4 - City & Guilds Level 3 Diploma in Engineering (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/0882/9	City & Guilds	54	480	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

The competence qualification, C1, has been developed to support job roles in overhead line construction.

K1 - K4 provide general theoretical underpinning engineering knowledge to support C1.

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications support key areas of technical knowledge development needed for apprentices in the rail engineering industry to carry out their duties in a safe and efficient manner. Delivery methods for knowledge based qualifications may vary, from a conventional college based environment, to delivery through a combination of this and written/web-based/distance learning materials.

Employers have agreed that their apprentices should have access to a number of different technical knowledge qualifications that specify varying degrees of theoretical concepts required, including a broad range of mathematical, scientific and engineering principles and processes.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	2	6

Progression routes into and from this pathway

Progression routes into this pathway

Entrants to this pathway are likely to primarily be school leavers who have completed their GCSE or Welsh Baccalaureate studies, and in some cases relevant vocational activity such as a Pre-Apprenticeship programme or extended work experience.

More specifically they may:

- have GCSEs in English, Maths and Science - grade C or above or
- have a Welsh Baccalaureate or
- have A or AS levels in Science, Technology, Engineering or Mathematics subjects or
- have completed a Foundation Apprenticeship in Rail Engineering Overhead Line Construction or
- have previous work experience or employment in the rail/electrical/power distribution sector or
- be willing to undertake a course of training both on-the-job and off-the-job and apply this learning in the workplace and
- be keen and motivated to work in a rail engineering environment .

Other entrants may have experience from working in the sector, and are now seeking to become qualified by undertaking an apprenticeship programme. Particular interest would be shown to those applicants who have had previous work experience or employment in the rail/electrical/power distribution sector.

Progression routes from this pathway

While significant numbers of Apprentices will seek internal progression to team leader or supervisory roles or follow a route into a senior technical role within their companies, some will

want to progress to a Higher Apprenticeship in Engineering (Rail Pathway); others may decide to opt for a Foundation Degree in Railway Engineering or HNC/HND. More generally, most ex-apprentices aspire to a combination of internal promotion while at the same time undertaking company sponsored qualifications as specified above.

Useful websites:

<http://www.nsare.org>

<http://www.riagb.org.uk/content-page.php?pid=44>

and individual rail company websites

UCAS points for this pathway:

(no information)

Employee rights and responsibilities

There are two methods of achieving ERR as set out below:

Method 1 - Qualifications

1a. Excellence Achievement and Learning (EAL) have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements.

Qualification details:

EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

QCF qualification ref no: 600/0290/6

Credit value: 5 credits

Guided learning hours: 41

1b. Pearson have produced a stand-alone qualification that can cover all 9 outcomes of ERR requirements if Unit 2 is achieved.

Qualification details:

Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment (QCF)

QCF qualification ref no: 501/1793/2

Credit value: 4 credits

Guided learning hours: 40

Please note: The Pearson BTEC Level 2 Award consists of a mandatory unit as an introduction to apprenticeships. Apprentices must then complete Unit 2 which covers the ERR requirements (included within content). This qualification is designed to be assessed in the context of the sector relevant to the apprenticeship framework being undertaken (ie overhead line construction in this case).

1c. Pearson have produced a Level 3 stand-alone qualification that can cover all 9 outcomes of ERR requirements if Units 2 and 4 are achieved.

Qualification details:

Pearson BTEC Level 3 Award in WorkSkills for Effective Learning and Employment (QCF)

QCF qualification ref no: 501/1791/9

Credit value: 4 credits

Guided learning hours: 40

The Pearson BTEC Level 3 Award consists of a mandatory unit as an introduction to apprenticeships. Apprentices must then complete Units 2 and 4 which cover the ERR requirements (included within content). This qualification is designed to be assessed in the context of the sector relevant to the apprenticeship framework being undertaken (ie overhead line construction in this case).

Please note: Only Level 2 is required to meet the framework requirements.

1d. City & Guilds have produced a stand-alone qualification that can cover all 9 outcomes of ERR requirements.

Qualification details:

City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work (QCF)

QCF qualification ref no: 600/2819/1

Credit value: 2 credits

Guided learning hours: 15

Please note: Although it may be possible to complete ERR in a minimum of 15 Guided learning hours (GLH), Semta recommend a minimum of 40 GLH are taken to complete the ERR requirements.

These qualifications will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

Apprentices achieving the qualifications will have demonstrated that they have the underpinning knowledge relevant for the rail engineering overhead line construction environment which satisfies the Specification for Apprenticeship Standards for Wales.

Method 2 - Workbook

Semta has produced an Apprentice ERR workbook that is available from:

customercare@eal.org.uk

The requirements for completing it must be explained to the apprentice right at the start of their training in order that they may take full advantage of their *company induction where significant amounts of information towards the national outcomes will be covered. The workbook is intended to enable apprentices to know, understand and record the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.

***Please note:** All apprentices must receive a company induction programme.

At present, Wales has a paper based system to claim final certification of the apprenticeship framework, although this will soon be changed to an electronic based system. However in both cases one of the following forms of ERR evidence will be required:

- a qualification certificate for EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF)

or

- qualification certificate for Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment (QCF) **which must include achievement of Unit 2**

or

- qualification certificate for Pearson BTEC Level 3 Award in WorkSkills for Effective Learning and Employment (QCF) **which must include achievement of Units 2 and 4**

or

- a qualification certificate for City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work (QCF)

or

- a completed and countersigned Semta ERR workbook

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

How equality and diversity will be met

Within the rail engineering industry, only about 4.4% of the workforce are women. The percentage of the workforce that is ethnic minority is also lower than the national average, at 5%.

Semta recognises the training and business benefits of having apprentices from a wide variety of diverse backgrounds. We are committed to ensuring equality and diversity drives all aspects of apprentice selection and recruitment. Equal opportunity and diversity refers to the active elimination of unlawful or unfair discrimination against any person or group on the grounds of gender, race, colour, nationality, ethnic origin, religion, age, sexual orientation, marriage and civil partnership, pregnancy and maternity, political belief, disability and where appropriate, prison/offender background where this is deemed irrelevant.

Despite the encouraging numbers of both female participants and ethnic minorities on the 14 to 19 Engineering and Manufacturing Diplomas and Young Apprenticeship programmes, the Engineering sector still has a significant way to go to encourage women into engineering and manufacturing careers.

Semta wishes to make a Gender Equality Commitment. Semta has signed the United Kingdom Resource Centre (UKRC) CEO's charter in a bid to step up female recruitment in its key sectors and programmes. Due to impending skills gaps it is estimated that 204,000 people will be required to be recruited and trained between 2010-2016 within Semta's sectors of Rail Engineering (18,700), aerospace, automotive, composites, electrical, electronics, maintenance, marine, mathematics, metals and engineered metal products, renewables and science.

The UKRC is the Government's leading body for advanced gender equality in science, engineering and technology (SET) and the CEO's charter is a formal commitment to the UKRC's agenda to challenge the under-representation of women in SET. Women make up 50% of the labour market, yet they make up less than 20% of the labour market in science, engineering and technology.

The UKRC believes that only a concerted effort by the SET industry will break down the gender barriers that exist in traditionally male-dominated environments and we want to be part of a new consensus which will create an inclusive working environment for women. The rail industries in which this framework operates are traditionally dominated by a white, male workforce. However, faced with an aging workforce and the probability of skill shortages we must look to attract new entrants from a much more diverse recruitment pool. This means that

all young people and adults considering rail engineering as a career are welcome.

Providers of apprenticeship training including employers must be able to demonstrate there are no overt or covert discriminatory practices in the selection and employment of apprentices this can be demonstrated by the implementing of a Single Equality Scheme (SES). The new Equality Duty (part of the Single Equality Bill) introduced to the public sector requires all public sector bodies to produce a SES combining their current race, disability and gender schemes and should be recognised by all providers of apprenticeship training. The implementation of a SES demonstrates the organisation's commitment to equality and diversity by identifying new and improved ways of working to ensure the organisation is more efficient and effective in meeting the diverse needs of both staff and customers.

All those who recruit apprentices, be they colleges, training providers or employers, must comply with the Equality act of 2010 and apply the Equality and Diversity legislation taking full account of the following:

- The Sex Discrimination Act 1975 and Code of Practice
- The Race Relations Act 1976 and Code of Practice
- The Disability Discrimination Act 1995 and Code of Practice
- Employment Equality (Religion or Belief) Regulations 2003
- Employment Equality (Sexual Orientation) Regulations 2003
- Employment Equality (Age) Regulations 2006
- The Equality Act 2010

Providers of apprenticeship training and employers must also actively monitor equality of opportunity and diversity procedures and take positive action where necessary to ensure equal access and treatment for all. Apprenticeships must be seen as a vital route to encourage and facilitate long term change in the equality and diversity of the engineering industries, therefore entry conditions into this framework are extremely flexible. All effort should be made to increase the diversity of our apprentice population.

Download the guidance on the Equality Act here:

www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/

On and off the job training (Wales)

Summary of on- and off-the-job training

For both the Rail Engineering Overhead Line Construction frameworks at Level 2 and Level 3, the hours outlined in each section may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired some or all of the appropriate competence or knowledge, this prior learning needs to be recognised and documented using the relevant QCF credit transfer, QCF exemption or Recognition of Prior Learning (RPL) procedures.

The amount of 'on-the-job' training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total numbers of 'on-the-job' hours for this framework can be verified for apprenticeship certification. Those apprentices who commence training under a new apprenticeship agreement with a new employer may bring a range of prior experience with them. When an apprentice can claim 5% or more hours towards the 'on-the-job' framework total through prior learning acquired from previous full-time education, employment or other vocational programme, then the apprentices' learning programme should include 'customisation'.

Training providers and colleges are encouraged to identify additional 'on-the-job' training programmes that customise the learning to the new workplace. Customisation programmes may include selecting appropriate additional Unit(s) from QCF qualifications, or relevant units recognised as Quality Assured Lifelong Learning [QALL] through a CQFW recognised body, or follow Essential Skills at a level higher than that specified in the framework, including one or more Wider Key Skills or other competency-based qualifications/units relevant to the workplace.

Note

The Rail Engineering Overhead Line Construction framework primarily addresses the training needs of apprentices involved in overhead line construction. Having discussed the requirement for Essential Skills Wales, it was felt that all three qualifications would be required at Level 3. For an apprentice who has already achieved the relevant qualification, they must have been certificated within 5 years from the date of application for the Foundation Apprenticeship/ Apprenticeship Certificate.

Any off-the-job training undertaken before the apprentice started may count towards the off-the-job training required for the apprenticeship if it was undertaken in relation to an

accredited qualification contained in the framework for which an apprenticeship certificate is applied for. Both on and off-the-job training hours need to be planned, reviewed and jointly evaluated between the apprentice, training instructor, tutor or lecturer and workplace supervisor and where relevant the apprentices' mentor. The apprentice should have access to training support at all times, whether on or off-the job training.

On and off-the job training hours should be delivered through a variety of learning methods, individual and group teaching; team-working; e-learning; distance learning; coaching; mentoring; feedback and assessment.

The minimum and maximum training hours and credit value for each pathway are summarised in the pathway descriptions.

Evidence requirements for claiming an Apprenticeship Certificate

The Welsh Government still retains a paper based certification system (at the time of Issuing this framework). In order to claim an apprenticeship certificate training providers will need to:

- complete a Registration Request form (downloadable from the Semta website)
- complete a Certificate Request form (downloadable from the Semta website)

In addition the certificate request must include:

- the full name of the apprentice
- apprentice start date
- the title of the apprenticeship framework completed
- the level of the apprenticeship completed which must be expressed as either Foundation, Apprenticeship, or Higher
- the apprentice sector to which the apprenticeship framework relates
- the date the apprentice completed the apprenticeship framework
- evidence of completion of the competency qualification (Awarding Organisation Completion Certificate)
- evidence of completion of the technical knowledge-based qualification (Awarding Organisation Completion Certificate)
- evidence of completion of Transferable Skills: (Essential Skills Wales or Key Skills at the same level) as specified in the Transferable Skills section within this framework
- evidence of completion of the Wider Key Skills
- evidence of completion of Employee Rights and Responsibilities (ERR) as detailed in the ERR section of this framework.

Applications should be made by post to the Semta Apprenticeship Certification Department, 14 Upton Road, Watford, Herts WD18 0JT.

The Welsh Government have given their commitment to join England in moving to an on-line apprenticeship certification system currently being operated by the Federation for Industry Sector Skills & Standards (FISSS), so arrangements for certification of apprenticeship will change significantly.

Off-the-job training

Off-the-job training is defined as time for learning activities away from normal work duties or away from the immediate pressures of the workplace.

Refer to each pathway description for a summary of the minimum off-the-job training hours

How this requirement will be met

Off-the-job training needs to:

- 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 the apprentice access as, and when required to tutors, teachers, mentor(s) or manager
- be delivered through one or more of the following methods: individual and group tutoring, e-learning, distance learning, coaching, mentoring, feedback and assessment, collaborative/networked learning with peers or directed study.

Providers will not be required to record individual on and off-the-job training hours. However for certification purposes, the provider will be required to declare that the apprentice has completed the on and off-the-job training hours requirement as set out in this Apprenticeship framework.

Training hours delivered under an apprenticeship agreement may vary depending on the previous experience and attainment of the apprentice. The amount of off-the-job training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total number of off-the-job hours for this framework can be verified for apprenticeship certification.

Previous attainment

Where a learner enters an apprenticeship agreement having previously attained parts or all of the relevant qualifications, this prior learning needs to be recognised using either QCF credit transfer for achievements within the QCF, or through recording of exemptions for certificated

learning outside of the QCF, for example Principal Learning qualifications.

For apprentices who have already achieved the relevant qualifications, they must have been certificated within 5 years of applying for the Foundation or Apprenticeship Certificate.

Previous experience

Where a learner enters an apprenticeship agreement with previous work-related experience, this prior learning needs to be recognised (see QCF Guidance on Claiming Credit for further details). To count towards apprenticeship certification, previous experience must be recorded using the appropriate Awarding Organisation's QCF 'Recognition of Prior Learning' procedures and the hours recorded may then count towards the off-the-job hours required to complete the apprenticeship.

For apprentices with prior uncertificated learning experience, they must have been continuously employed in the relevant job role in the industry for five years duration.

The Technical Certificate may be delivered either by day or block release or a combination of the two at a local Training Provider or College of FE or delivered on the employers premises (away from the immediate pressures of the workplace). There may also be a need for self study according to the Training Providers, Colleges or Awarding Organisations arrangements.

Essential Skills Wales delivery methods may vary, however all methods should start with initial/early assessment of a learner's skills, personalised learning should be based on assessing performance to date in order to inform and shape the next step in learning for that individual or group of individuals. Essential Skills Wales are externally assessed and candidates need to be prepared in order to take the tests, again methods of preparation vary but the preferred method seems to be an intensive off-the-job coaching period where candidates are taught the techniques required to undertake previous test papers to become proficient.

Employee Rights and Responsibilities (ERR) will be delivered as per the guidance in the ERR section of this framework. It is important that all new apprentices receive a comprehensive induction programme on joining their company and that they are aware of the evidence opportunities this presents to complete significant areas of the ERR requirements.

All three key elements (along with Wider Key Skills Wales) will be delivered by a combination of group-based delivery and self-study. In addition there will be a company induction, and it is recommended that a mentor should be appointed for each apprentice to review their progress on a regular weekly basis. All of these activities will take place off-the-job.

The Technical Certificate, Essential Skills Wales and Employee Rights and Responsibilities will be formally delivered by the training provider/college staff in accordance with the awarding organisation's delivery and assessment guidance.

Inclusion of Technical Certificates in the apprenticeship framework pathway

Working closely with a number of stakeholders including employers and awarding organisations, we have ensured that employers and apprentices have access to a range of technical certificates across a number of awarding organisations.

Whilst Awarding Organisation partners have ensured that each of the technical knowledge qualification in the pathway delivers, via a core and options approach, the minimum knowledge and understanding requirements for all the job roles selected in the appropriate NVQ. Employers have also demanded that they and apprentices have access to a number of different technical knowledge qualifications that specify varying degrees of theoretical concepts required in overhead line construction principles.

The different sizes (credit value and hours) of the technical knowledge qualifications reflects the varying degree in the complexity, breadth and depth of the skills, knowledge, understanding and theoretical concepts required in the rail engineering sector.

The benefits of this approach for both the employer and apprentices is that they can select the most appropriate qualification that meets the business requirements but also recognises the potential progression opportunities both in company including access to further and higher education and the career aspirations and abilities of the apprentice.

The providers of the technical knowledge qualification in partnership with the apprentice and employer could take the following into account and/or undertake further diagnostic assessments to ensure that the apprentice is enrolled on the most appropriate technical qualification:

- the career aspirations of the apprentice
- the skill and knowledge requirements of the employer for the selected occupational area (job role). The employer may have recruited the apprentice based on a workforce planning tool including succession planning
- an assessment of the academic qualifications achieved by the apprentice prior to undertaking the framework to determine if the apprentice will have the ability to achieve
- one of the more academically demanding technical knowledge qualifications
- the results of any psychometric tests that would ascertain whether the apprentice will be able to achieve one of the more academically demanding technical knowledge qualifications
- the preferred learning style of the apprentice including the various assessment methodologies used by the different Awarding Organisations Custom and practice within the sector, including any legislation requirements
- local and/or national Trade Union agreements

Evidence of off-the-job training

The range of evidence requirements are as follows:

1. Copy of Awarding Organisation certificates for Communication and Application of Number (Essential Skills Wales) or Key skills at the same level as Essential Skills Wales
2. Copy of Awarding Organisation certificates for the IOLP and WWO (Wider Key Skills Wales)
3. Copy of the Awarding Organisation certificate for the ERR qualification or completed countersigned ERR workbook
4. Copy of the Awarding Organisation certificate for the knowledge qualification

On-the-job training

Refer to each pathway description for a summary of the minimum on-the-job training hours.

How this requirement will be met

The units must be assessed in a work environment and must be assessed in accordance with the 'Common Requirements for National Vocational Qualifications (NVQ) in the QCF' which can be downloaded from Semta's website.

Additional assessment requirements have been published by Semta. These additional assessment requirements are set down in Semta's Engineering NVQ QCF unit assessment strategy which can be downloaded from Semta's website.

On-the-job training hours 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.

Examples of on-the-job training hours in a rail engineering context might be:

- environmental awareness
- employability skills
- team working and communications
- task-specific workplace instructions or team briefings
- taught sessions by the workplace line manager/instructor

- induction where activities are covered within normal work duties
- coaching of learners

These hours may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired the appropriate competencies or knowledge, this prior learning needs to be recognised and documented using the relevant QCF credit transfer, QCF exemption or RPL procedures (as off-the-job above).

The amount of on-the-job training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total number of on-the-job hours for this framework can be verified for apprenticeship certification.

All apprentices are required to generate evidence in the work place to demonstrate completion of the competence qualification, this may be through:

- apprentices generating a portfolio to record evidence of unit completion in accordance with the awarding organisation's requirements and this will be regularly reviewed by the assessor and mentor. A period of one hour per week has been set aside for mentors to review the ongoing progress of their apprentice

or

- apprentices generating portfolio evidence based on jobs undertaken will need to get this signed as having been completed by a responsible work colleague. This is then examined and agreed by the assessor as a contribution to demonstrating competence in the workplace.

Generation of portfolio evidence may be paper based, electronic with other mediums such as video evidence. Evidence may be gathered throughout the whole apprenticeship period.

Wider key skills assessment and recognition (Wales)

Improving own learning and performance

Improving own learning and performance is an essential component of both the Overhead Line Construction Foundation Apprenticeship at Level 2 and the Overhead Line Construction Apprenticeship at Level 3:

- the requirement for the Overhead Line Construction Foundation Apprenticeship is at level 1.
- the requirement for the Overhead Line Construction Apprenticeship is at level 2

Working with others

Working with others is an essential component of both the Overhead Line Construction Foundation Apprenticeship at Level 2 and the Overhead Line Construction Apprenticeship at Level 3:

- the requirement for the Overhead Line Construction Foundation Apprenticeship is at level 1.
- the requirement for the Overhead Line Construction Apprenticeship is at level 2

Problem solving

Although the ability to problem solve is required in many engineering processes, it is dealt with 'on-the-job' within the NVQ and technical certificate rather than in the abstract. Therefore problem solving does not form a specific part of the Wider Key requirements for this framework

Additional employer requirements

Before accessing overhead line construction sites

Before going on to an overhead line construction site it is a mandatory requirement that all workers have achieved the Overhead Line Equipment Construction (OLEC) 1: Access Overhead Lines Construction Sites course and successfully completed the Working at Height, Emergency First Aid and Safe Manual Handling courses.

This is to ensure the person can demonstrate their ability to access overhead line construction sites safely and effectively in line with process and procedures, and follow recording, reporting and escalation procedures.

An apprentice can achieve the OLEC 1 course before they are 18 but cannot access the track until they are age 18 or over.

Further requirements

When a person is required to undertake basic overhead line equipment (OLE) construction activities on site they need to achieve the Overhead Line Equipment Construction (OLEC) 2: Undertake Basic OLE Construction Activities under Direction course.

The course is designed to familiarise those who are new to OLE Engineering and whose work may involve or interact with OLE Construction activities, giving them sufficient knowledge and hands-on practical skills for undertaking basic OLE construction activities safely and effectively under direction in accordance with instructions, procedures and processes. The person shall have to show they can follow recording, reporting and escalation procedures

Although there are no pre-requisites for attending the training course, before undertaking the assessment for OLEC 2 a person must have been certified competent in OLEC 1: Access Overhead Lines Construction Sites and would normally have completed the Working at Height, Emergency First Aid and Safe Manual Handling courses.

NOTE

Infrastructure owners may have other additional requirements to the basic requirements listed above.

apprenticeship
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