apprenticeship
FRAMEWORK

Advanced Engineering Construction (Wales)

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Apprenticeships

Advanced Engineering Construction (Wales)

Contents

Framework summary

Advanced Engineering Construction

Engineering Construction

Pathways for this framework at level 3 include:

Pathway 1: Pipefitting

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems - Pipefitting (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P4 Pipefitting

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 2: Mechanical Fitting

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems – Mechanical Fitting (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P5 Mechanical Fitting

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 3: Welding (Pipework)

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Welding Engineering Construction Pipework (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P6 Welding

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 4: Welding (Plate)

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Welding Engineering Construction Plate (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P6 Welding

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 5: Plating

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Fabricating Engineering Construction Steel Structures – Plating (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P2 Fabrication Platework

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 6: Steel Erecting

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Erecting Engineering Construction Capital Plant Steel Structures (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P1 Fabrication Steel Erecting

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 7: Rigging (Moving Loads)

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Moving Engineering Construction Loads (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

K2 - Level 3 Diploma in Engineering Construction (QCF) - P3 Moving Loads

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 8: Electrical Installation

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Installing Engineering Construction Plant & Systems Electrical (QCF)

Knowledge qualifications available to this pathway:

K1 - Level 3 Diploma in The Principles and Procedures for the Installation of Electrical Systems and Equipment for Engineering Construction Plant (QCF)

K2 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

K3 - BTEC 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

Pathway 9: Non Destructive Testing

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Engineering Construction Non Destructive Testing (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K2 - BTEC Level 3 Diploma in Manufacturing Engineering (QCF)

K3 - BTEC 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

Pathway 10: Instrument & Controls

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems - Instrument and Controls (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

K2 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 11: Electrical Maintenance

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems – Electrical (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

K2 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 12: Mechanical Maintenance

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems – Mechanical (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

K2 - Level 3 BTEC Diploma in Mechanical Engineering (QCF)

K3 - BTEC 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

Pathway 13: Design & Draughting

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Engineering Construction Design and Draughting (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Operations & Maintenance Engineering (QCF)

K2 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Engineering (QCF)

K5 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 14: Project Control

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Project Control (QCF)

C2 - Level 3 Diploma in Commercial Support (QCF)

C3 - Level 3 Diploma in Cost Engineering (Cost Control) (QCF)

C4 - Level 3 Diploma in Cost Engineering (Cost Planning) (QCF)

C5 - Level 3 Diploma in Planning (QCF)

C6 - Level 3 Diploma in Estimating (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)

K2 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

K4 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

K5 - BTEC 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

Pathway 15: Instrument Pipefitting

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems Small Bore Tubing Assemblies (QCF)

Knowledge qualifications available to this pathway:

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

K2 - BTEC Level 3 Diploma in Engineering (QCF)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

Combined qualifications available to this pathway:

N/A

This pathway also contains information on:

- Employee rights and responsibilities
- Essential skills

Pathway 16: Construction and Completions Control

Competence qualifications available to this pathway:

C1 - Level 3 Diploma in Monitoring Engineering Construction Activities (QCF)

Knowledge qualifications available to this pathway:

K1 - Level 3 BTEC Diploma in Mechanical Engineering (QCF)

K2 - BTEC Level 3 Diploma in Engineering (QCF)

K3 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)

K4 - BTEC Level 3 Diploma in Electrical / Electronic 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:

Engineering Construction Industry Training Board

The Apprenticeship sector for occupations in engineering construction.

Issue number: 4	**This framework includes:**
Framework ID: FR02856	Level 3
Date this framework is to be reviewed by: 31/07/2015	This framework is for use in: **Wales**

Short description

The Engineering Construction Level 3 Apprenticeship Framework is recognised within the industry as one of the best routes for entrants to attain the skills required to work on engineering construction sites, including offshore installations.

The framework provides users with consistent guidelines under which to work to achieve and maintain the standards and levels of knowledge and competencies required by the industry.

The occupations covered by this framework are as follows:

Craft:

Pipefitting; Rigging (Moving Loads); Plating; Mechanical Fitting; Steel Erecting; Welding (Pipe); Welding (Plate); and Electrical Installation.

Technician:

Electrical Maintenance; Non Destructive Testing; Mechanical Maintenance; Instrument & Control Maintenance; Instrument Pipefitting; Design & Draughting; and Construction and Completions Control.

Project Control:

Includes pathway routes to specialise in areas of project control.

Contact information

Proposer of this framework

The proposer of this framework is the ECITB Qualifications and Awards Committee. The Committee is comprised of senior industry employer representatives, who have a first-hand knowledge of what employers' require from the framework and what is needed of entrants to the industry. This framework is 'published' by the ECITB pending the Welsh Government's designation of Issuing Authorities in Wales.

Developer of this framework

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Revising a framework

Contact details

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Why this framework is being revised

This framework has been revised to:

- Include a new occupational pathway (16) - 'Construction and Completions Controls' as required by industry employers.

Summary of changes made to this framework

This revised framework contains the following changes:

- Inclusion of a new Construction Technician pathway including updates to other sections relating to information and requirements on this pathway, where relevant.

Qualifications removed

N/A

Qualifications added

The following **new pathway** qualifications have been added to this framework:

Pathway 16: Construction and Completions Control

Competence Qualification:

- C1 - ECITB Level 3 Diploma in Monitoring Engineering Construction Activities (QCF): QRN 601/3887/7

Knowledge Qualification:

- K1 - Pearson Education Ltd BTEC Level 3 Diploma in Mechanical Engineering (QCF): QRN 500/7283/3
- K2 - Pearson Education Ltd BTEC Level 3 Diploma in Engineering (QCF): QRN 500/8154/8
- K3 - Pearson Education Ltd BTEC Level 3 Diploma in Construction and the Built Environment (QCF): QRN 500/7137/3
- K4 - Pearson Education Ltd BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF): QRN 500/8098/2

Transferable Skills - Essential Skills Wales (ESW) Level 2 requirement in:

- Application of Number
- Communication
- ICT

ERR Option 2:

- EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6

Qualifications that have been extended

N/A

Purpose of this framework

Summary of the purpose of the framework

This framework has been designed to meet the requirements for the types of work undertaken in the Engineering Construction Industry. UK engineering construction is a global force and employs approximately 80,000 people in the UK, 100,000 worldwide. The industry delivers successful new build, maintenance, plant upgrade and decommissioning projects worldwide across the oil, gas, water, power generation, nuclear, chemical, pharmaceutical, water, environmental and food & drink industries.

Domestically, the £16 billion industry is fundamental to the economy and the demand for engineering construction is set to rise significantly over the next decade and beyond. Training investment to ensure the right levels of highly skilled and competent individuals are attracted to the industry is vital to address the skills shortages created by growth, emerging technologies and an ageing workforce. This will create significant long-term skilled employment opportunities for people with the right skills. Engineering construction skills are also transferable and valued in a number of related sectors. Current and future planned power generation projects in Wales are particularly significant and the current and predicted manpower shortage means that there is a continuing demand in Wales for a range of job disciplines from crafts persons and technicians through to graduate engineers. This framework will create job opportunities that are in alignment with the current skills priorities for Wales by providing long term sustainable employment in a key sector identified in Wales (Construction).

Combining college learning with work experience, this framework is recognised within the industry as the best route for attracting and developing entrants to the industry and for them to attain the skills, industry awareness, practical experience and relevant qualifications required to work in a variety of roles on engineering construction sites, including offshore installations. Its purpose is to provide consistent guidelines in respect of the standards and levels of knowledge and competences required by the industry, such that the current and anticipated skills shortages within engineering construction can be positively addressed. This framework offers pathway routes in a range of craft, technician and project control roles, both onshore and offshore. It should be noted that many of today's supervisors, managers, designers and professionals originally joined the industry through the Apprenticeship route.

This framework will help ensure that people from a wide variety of backgrounds are provided the opportunity to enter the industry and become highly skilled in a sector where there is a demand for their skills. This Apprenticeship offers an exciting platform for long term and rewarding career opportunities in an industry where training is valued and recognised by employers, and is seen as essential in helping them ensure they remain highly competitive and continue to thrive commercially well into the future.

Aims and objectives of this framework (Wales)

The aim of this Apprenticeship framework is to make a significant contribution to meeting the recruitment needs of the engineering construction industry (ECI), thereby positively impacting on the increase required in skilled people from the current 79,000 to 91,500 by 2020. This will increase the ability of industry employers to compete in the global marketplace thus protecting the high reputation of the UK engineering construction sector.

Labour market information suggests that in order to satisfy the anticipated requirements of the various client sectors, the total UK engineering construction workforce will need to increase by the amount stated above. The impact on the UK of such a shortfall of qualified people is significant and profound. It would, for example, severely curtail the national capacity to generate power and to extract and process oil. This could result in the loss of multi million pound contracts by UK based companies to overseas competition.

With respect to specific manpower requirements and opportunities within Wales, the engineering construction sector is a key stakeholder on many sites. It counts the Dragon and South Hook LNG terminals and the MURCO and Chevron oil refineries amongst its clients in Pembrokeshire. The new £1 billion RWE/nPower and Eon gas fired power station is also being constructed in Pembrokeshire by ECI contractors. In South East Wales, the industry has involvement with TATA steel mills, Port Talbot and with the £8.5 million carbon capture project that has recently been completed at Aberthaw. Uskmouth power station is a new 850 MW combined cycle gas turbine power station which was completed in 2010 and is one of the most efficient power stations in the UK. In North Wales, Horizon Nuclear Power is planning the construction of a 3.3 GW power station at Cemaes Bay in Anglesey which could lead up to 5000 jobs during the construction phase and 800 jobs when the project is completed. A €2 billion offshore wind farm for the coast of North Wales by RWE Innogy, Stadtwerke Munchen and Siemens is making good progress.

In order to address the increasingly urgent shortages of engineering construction skills, whilst in competition for skills with other industries, employers need a training and qualifications system that is attractive to entrants from a variety of sources, including from within the industry itself. Level 3 Apprenticeships have been identified as one of the most effective ways of achieving this. It is clear that the future of the engineering construction industry in Wales is very promising and there is great career potential in Wales for new entrants to the industry. Completing the ECITB Level 3 Apprenticeship will provide the learner with the practical competences and underpinning theoretical knowledge necessary to play a productive and rewarding role in this most exciting sector.

The objectives of this framework are:

1. To increase the number of new entrants to the industry developed by way of a Level 3

Apprenticeship framework, to help meet the current and future demand forecasted by the engineering construction industry.

2. To provide a route and structured framework for development or upskilling of existing industry workers, e.g. progression into this Apprenticeship framework from a Foundation Apprenticeship framework or other relevant sector training opportunity.

3. To provide a structured framework for training apprentices that enables the engineering construction industry to establish a sufficiently large pool of fully skilled and qualified people with the right knowledge and competences necessary to meet the requirements of all its customers.

4. To develop a flexible workforce capable of high levels of productivity and safety in a wide variety of environments.

5. To help the industry meet the skills challenges of emerging technologies, including nuclear requirements.

6. To increase accessibility into the industry of people from a range of backgrounds, including under-represented groups. It does this by providing a flexible, fair, clear and coherent framework for entry, development and progression.

Apprenticeships are not the only vehicle for introducing entrants to the industry but they are, arguably, the most systematic, efficient, effective and sustainable.

Entry conditions for this framework

Craft Pathways

These Apprenticeships develop employees with a high level of practical hands-on skills to be put into effect direct on customer sites

Applicants for Craft Apprenticeships (Welding Pipe; Welding Plate; Pipefitting; Mechanical Fitting; Plating; Rigging (Moving Loads); Electrical Installation; and Steel Erecting) should ideally have achieved (or expect to achieve) GCSE grades C or above in: Mathematics; English (Language or Literature); a Science or Technical subject **OR** the Welsh Baccalaureate (Foundation/Intermediate/Advanced) including the Principal Learning qualification in either Construction and the Built Environment or Engineering **OR** have successfully completed an ECITB Intermediate or Foundation Apprenticeship in a related discipline.

Technician Pathways

These Apprenticeships train employees for projects and operations that may be carried out direct on a customer site or offsite (e.g. employer's Head Office), and can be for onshore or offshore. Technician apprentices have more input than craft apprentices in systems design and development, fault diagnosis and identifying remedial actions. They will be responsible for the smooth running of systems and equipment, including completing tests and communicating their results. *These disciplines include: Instrument & Controls; Electrical Maintenance; Mechanical Maintenance; NDT; Instrument Pipefitting; Design & Draughting; and Construction and Completions Control.*

Project Control Pathways

These Apprenticeships cover project process and controls, document controls, the procurement process, estimating, planning and scheduling, cost control and monitoring, commissioning and handing over. The apprentice will also be trained in core engineering construction craft skills.

A Project Control and Technician apprentice's educational training is more theory-based, and this is reflected in the higher academic entry level requirements listed below.

Applicants for Technician Advanced Apprenticeships or Project Control Advanced Apprenticeships should ideally have achieved (or expect to achieve) GCSE grades A - C in: Mathematics; English (Language or Literature); a Science or Technical subject (although with the Scientific and/or mathematical involvement, an A or B pass would be considered advantageous) **OR** the Welsh Baccalaureate (Intermediate or Advanced) including the Principal Learning qualification in either Construction and the Built Environment or Engineering **OR** have successfully completed an ECITB Intermediate or Foundation Apprenticeship in a related discipline.

Alternative Entry Requirements

The above academic entry requirements are justified by the technical nature of the work and the need for effective, safe and accurate communication, as well as providing a useful indicator to an employer or training provider that the individual will be capable of achieving the learning outcomes required to become competent in a Craft, Technical or Project Control discipline.

However, they are not the only indicator of ability and applicants who have not, or are unlikely to have, achieved the aforementioned qualifications may still be considered for entry provided they can show alternative evidence of similar attainment **or** practical experience that could provide a platform to successfully achieving all Apprenticeship learning outcomes. For example, an applicant who has previously achieved a further education qualification at an equivalent level to the Baccalaureate Diploma or GCSE grades stated or can provide evidence of sufficient work or voluntary experience in a related or similar sector may be deemed to possess adequate qualifications or experience. An applicant must be able to demonstrate the potential ability and attributes to successfully achieve the knowledge, skills and competency requirements of the stated Apprenticeship.

Additional Requirements

For safety of self and colleagues, all applicants will be informed that at some stage during their training and prior to going onsite with an employer they may be subject to a medical examination and be required to undertake a drugs screening test. The nature of some sites (e.g. nuclear) may also require the apprentice to undergo a security check prior to being allowed entry.

Furthermore, all applicants should be:

- Committed and motivated to succeed within the industry
- Willing to work with due regard to Health & Safety of self and others at all times
- Willing to comply with the terms and conditions of their Contract of Employment

Applicants should be aware that the specific nature of engineering construction work may involve varied working conditions including:

- Working outdoors and in adverse weather conditions, e.g. temperature variations
- Shiftwork (may include nights and weekends)
- Working at height (particularly Steel Erecting Apprenticeships, which require working at significant height)
- Working in confined spaces
- Working within highly regulated and controlled areas
- Working within high hazard environments
- Wearing specialist safety equipment
- Working away from home

Good colour vision to recognise colour coded wires and components may be required

(particularly Electrical Installation and Electrical Maintenance Apprenticeships).

Initial Assessment of Apprenticeship Training Requirements

Initial assessment of apprentice training requirements will be used to identify prior learning and experience to tailor the Apprentice's Individual Learning Plan, and not for screening out applicants.

In the case of Accredited Prior Learning (APL) for Competence, Knowledge or Essential Skills Wales, the Apprenticeship programme will be tailored to allow the apprentice to undertake new learning, including learning at a higher level and to develop new skills as required.

Level 3

Title for this framework at level 3

Engineering Construction

Pathways for this framework at level 3

Pathway 1:	Pipefitting
Pathway 2:	Mechanical Fitting
Pathway 3:	Welding (Pipework)
Pathway 4:	Welding (Plate)
Pathway 5:	Plating
Pathway 6:	Steel Erecting
Pathway 7:	Rigging (Moving Loads)
Pathway 8:	Electrical Installation
Pathway 9:	Non Destructive Testing
Pathway 10:	Instrument & Controls
Pathway 11:	Electrical Maintenance
Pathway 12:	Mechanical Maintenance
Pathway 13:	Design & Draughting
Pathway 14:	Project Control
Pathway 15:	Instrument Pipefitting
Pathway 16:	Construction and Completions Control

Level 3, Pathway 1: Pipefitting

Description of this pathway

Installing Engineering Construction Plant and Systems - Pipefitting.

Total minimum credit value for this pathway: **171** Credits:

- Competence Qualification - 99 Credits;
- Knowledge Qualification - 60 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Pipefitter	The laying out, marking out, cutting, forming and joining of pipe to carry oil, water and gas under pressure.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems - Pipefitting (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1023/8	Engineering Construction Industry Training Board	99	644-645	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P4 Pipefitting

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/2639/X	City and Guilds	68	589	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 22: Fabrication Processes and Technology.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 4 - Fabrication Pipefitting).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Pipefitting pathway will be well equipped to progress into this pathway.

Successful completion of this Apprenticeship in Engineering Construction for Wales pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Pipefitting pathway and an apprentice's attained knowledge and experience in the manufacture and installation of small and large bore pressure pipe work can provide opportunities to progress into a role leading a team as a Supervisor – Mechanical Trades.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country’s economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 2: Mechanical Fitting

Description of this pathway

Installing Engineering Construction Plant and Systems - Mechanical Fitting.

Total minimum credit value for this pathway: **127** Credits:

- Competence Qualification - 62 Credits;
- Knowledge Qualification - 53 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Mechanical Fitter	Assembly, installation, maintenance and testing of complex engineering construction machinery and mechanisms.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems - Mechanical Fitting (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1100/0	Engineering Construction Industry Training Board	62	410-540	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P5 Mechanical Fitting

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/2639/X	City and Guilds	53	470	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 12: Application of Mechanical Systems in Engineering.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 5 - Mechanical Fitting).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Mechanical Fitting pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Mechanical Fitting pathway and an apprentice's attained knowledge and experience in installation and testing of mechanical equipment can provide opportunities to progress into a role as a Technician – Mechanical.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 - **(ECITB ERR Workbook)** - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 3: Welding (Pipework)

Description of this pathway

Welding Engineering Construction Pipework.

Total minimum credit value for this pathway: **138** Credits:

- Competence Qualification - 66 Credits;
- Knowledge Qualification - 60 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Welder	To fuse together metal pipework components and assemblies using extreme heat and to exacting tolerances and standards.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Welding Engineering Construction Pipework (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/1116/4	Engineering Construction Industry Training Board	66	483-703	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P6 Welding					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	600/2639/X	City and Guilds	60	525	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 23: Welding Technology.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 6 - Welding).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Welding Activities pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Welding (Pipework) pathway and an apprentice's attained knowledge and experience in welding to rigorous quality standards can provide opportunities to progress into a role as a Welding Inspector, testing the integrity of welds and diagnosing faults.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 4: Welding (Plate)

Description of this pathway

Welding Engineering Construction Plate.

Total minimum credit value for this pathway: **130** Credits:

- Competence Qualification - 58 Credits;
- Knowledge Qualification - 60 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Welder	To fuse together metal plate components and assemblies using extreme heat and to exacting tolerances and standards.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Welding Engineering Construction Plate (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/1286/7	Engineering Construction Industry Training Board	58	403	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P6 Welding					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	600/2639/X	City and Guilds	60	525	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 23: Welding Technology.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 6 - Welding).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Welding Activities pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Welding (Plate) pathway and an apprentice's attained knowledge and experience in welding to rigorous quality standards can provide opportunities to progress into a role as a Welding Inspector, testing the integrity of welds and diagnosing faults.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 5: Plating

Description of this pathway

Fabricating Engineering Construction Steel Structures – Plating.

Total minimum credit value for this pathway: **137** Credits:

- Competence Qualification - 65 Credits;
- Knowledge Qualification - 60 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Plater	The marking out, cutting, forming and joining of metal engineering construction assemblies.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Fabricating Engineering Construction Steel Structures – Plating (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1154/1	Engineering Construction Industry Training Board	65	375	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P2 Fabrication Platework

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/2639/X	City and Guilds	67	590	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 22: Fabrication Processes and Technology.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 2 - Fabrication Platework).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Plating Activities pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Plating pathway and an apprentice's attained knowledge and experience in fabricating and assembling large steelwork structures to exacting quality standards can provide opportunities to progress into a role leading a team as a Supervisor – Mechanical Trades.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 6: Steel Erecting

Description of this pathway

The Erecting of Engineering Construction Steel Structures.

Total minimum credit value for this pathway: **137** Credits:

- Competence Qualification - 68 Credits;
- Knowledge Qualification - 57 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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

Steel Erecting apprentices should possess an aptitude for working at significant heights.

Job title(s)	Job role(s)
Steel Erector	The lifting, alignment, assembly, erection and fixing of engineering construction steel structures using cranes and mobile work platforms.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Erecting Engineering Construction Capital Plant Steel Structures (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1102/4	Engineering Construction Industry Training Board	68	435-485	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P1 Fabrication Steel Erecting

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/2639/X	City and Guilds	57	515	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 11: Further Mechanical Principles and Applications**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 1 - Steel Erecting).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Steel Erecting pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Steel Erecting pathway and an apprentice's attained knowledge and experience in working at height to install steel girders and other assemblies can provide opportunities to progress into a role leading a team as a Supervisor – Mechanical Trades.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Guided Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 7: Rigging (Moving Loads)

Description of this pathway

Rigging, involving the Moving of Engineering Construction Loads.

Total minimum credit value for this pathway: **118** Credits:

- Competence Qualification - 62 Credits;
- Knowledge Qualification - 44 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Rigger	The safe moving, lifting and positioning of large components and engineering construction assemblies using a variety of rigging equipment and appendages.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Moving Engineering Construction Loads (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/0493/7	Engineering Construction Industry Training Board	62	369-418	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Subsidiary Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7841/0	Pearson Education Ltd	60	360	

K2 - Level 3 Diploma in Engineering Construction (QCF) - P3 Moving Loads					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	600/2639/X	City and Guilds	44	403	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K5a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

For apprentices undertaking the Knowledge Qualification K1 - Level 3 BTEC Subsidiary Diploma in Engineering: In order to adequately satisfy the knowledge requirements of the Competence qualification, the following Knowledge qualification Optional Unit should be taken for this pathway:

- **Unit 11: Further Mechanical Principles and Applications.**

For apprentices undertaking the Knowledge Qualification K2 - Level 3 Diploma in Engineering

Construction: In order to adequately satisfy the underpinning knowledge requirements of the Competence qualification, the specified Occupational Route for this qualification must be taken for this pathway **(Pathway 3 - Moving Loads).**

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction Activities pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Moving Loads pathway and an apprentice's attained knowledge and experience in planning and executing the lifting of heavy loads using a variety of specialist equipment can provide opportunities to progress into a role leading a team as a Supervisor – Mechanical Trades.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 8: Electrical Installation

Description of this pathway

The installation of Engineering Construction Electrical Plant and Systems.

Total minimum credit value for this pathway: **164** Credits:

- Competence Qualification - 83 Credits;
- Knowledge Qualification - 69 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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

Electrical Installation apprentices should possess good colour vision to recognise colour coded wires and components.

Job title(s)	Job role(s)
Electrical Fitter	The installation and commissioning of electro-technical engineering construction plant and systems.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Installing Engineering Construction Plant & Systems Electrical (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1294/6	Engineering Construction Industry Training Board	83	505	

Knowledge qualifications available to this pathway

K1 - Level 3 Diploma in The Principles and Procedures for the Installation of Electrical Systems and Equipment for Engineering Construction Plant (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	600/2278/4	Excellence, Ahievement & Learning Ltd (EAL)	69	646	

K2 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8098/2	Pearson Education ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/8154/8	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K3 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the three knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction pathway will have attained knowledge and skills that will provide a foundation to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Electrical Installation pathway and an apprentice's attained knowledge and experience in installation, testing and commissioning of electrical plant and equipment can provide opportunities to progress into a role leading a team as a Supervisor – Electrical Trades.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 9: Non Destructive Testing

Description of this pathway

Non Destructive Testing of Engineering Construction Components and Assemblies.

Total minimum credit value for this pathway: **175** Credits:

- Competence Qualification - 43 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
NDT Technician	The testing and analysis of engineering construction welded pipework, components and assemblies.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Engineering Construction Non Destructive Testing (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	600/0328/5	Engineering Construction Industry Training Board	43	289-457	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7283/3	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Manufacturing Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	500/7319/9	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/8154/8	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K3 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the three knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction pathway will have attained knowledge and skills that will provide a foundation to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Non Destructive Testing pathway and an apprentice's attained knowledge and experience in testing the integrity of welds using a variety of techniques can provide opportunities to progress into a role as a Welding Engineer.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 10: Instrument & Controls

Description of this pathway

Maintaining Engineering Construction Plant & Systems - Instrument and Controls.

Total minimum credit value for this pathway: **220** Credits:

- Competence Qualification - 88 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Instrument & Control Technician	The regulating and maintaining of measurement systems for gas flow, level, pressure and temperature.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems - Instrument and Controls (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1409/8	Engineering Construction Indsutry Training Board	88	521	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7315/1	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8098/2	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K2 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While both knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction Activities pathway will have attained knowledge and skills that will provide a foundation to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Instrument & Controls pathway and an apprentice's attained knowledge and experience in the inspection and testing of electrical, mechanical and instrument systems can provide opportunities to progress into a role as an Instrument Engineer.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when

applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 11: Electrical Maintenance

Description of this pathway

Maintaining Engineering Construction Plant & Systems – Electrical.

Total minimum credit value for this pathway: **218** Credits:

- Competence Qualification - 86 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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

Electrical Maintenance apprentices should possess good colour vision to recognise colour coded wires and components.

Job title(s)	Job role(s)
Electrical Maintenance Technician	The maintenance, including fault diagnosis and routine servicing, of high voltage power generation and distribution systems and other electrical equipment.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems – Electrical (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1401/3	Engineering Construction Industry Training Board	86	566	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/8098/2	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7315/1	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K2 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While both knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction Activities pathway will have attained knowledge and skills that will provide a foundation to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Electrical Maintenance pathway and an apprentice's attained knowledge and experience in maintaining high voltage power generation and distribution systems, motors, control systems and electrical equipment can provide opportunities to progress into a role as an Electrical Engineer.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 12: Mechanical Maintenance

Description of this pathway

Maintaining Engineering Construction Plant & Systems – Mechanical.

Total minimum credit value for this pathway: **226** Credits:

- Competence Qualification - 94 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Mechanical Maintenance Technician	The maintenance, including fault diagnosis and routine servicing, of valves, pumps, transmission systems, gas turbines, diesel engines and other mechanical equipment.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Maintaining Engineering Construction Plant & Systems – Mechanical (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/1309/4	Engineering Construction Industry Training Board	94	435-490	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7315/1	Pearson Education Ltd	120	720	

K2 - Level 3 BTEC Diploma in Mechanical Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7283/3	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/8154/8	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K3 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the three knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Mechanical Fitting pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Mechanical Maintenance pathway and an apprentice's attained knowledge and experience in maintaining valves, pumps and transmission systems and larger machinery such as diesel engines and gas turbines can provide opportunities to progress into a role as an Mechanical Engineer.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 13: Design & Draughting

Description of this pathway

Design and Draughting of Plans for Engineering Construction Components, Assemblies and Projects.

Total minimum credit value for this pathway: **233** Credits:

- Competence Qualification - 95 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 18 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)
Design & Draughting Technician	Using computer-aided design systems to produce detailed engineering drawings to a client's specifications.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Engineering Construction Design and Draughting (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	501/1322/7	Engineering Construction Industry Training Board	95	510	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Operations & Maintenance Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7315/1	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	500/7137/3	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/8154/8	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	500/8098/2	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

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 into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Supporting Engineering Construction Activities pathway will have attained knowledge and skills that will provide a foundation to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Design & Draughting pathway and an apprentice's attained knowledge and experience in using computer aided design systems and working to client specifications to produce detailed engineering drawings can provide opportunities to progress into a role as Piping Designer.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the ECITB 'Record of Achievement in ERR' certificate, which is to be signed by both the provider and apprentice and dated. Validated original certificates are to be submitted to the relevant Certifying Authority by the provider with the relevant Apprenticeship Certificate request form at the end of the Apprenticeship.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 14: Project Control

Description of this pathway

Project Control Activities in Relation to Engineering Construction Projects (pathway includes options to specialise in specific functions within Project Control).

Total minimum credit value for this pathway: **195** Credits:

- Competence Qualification - 57 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 18 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)
Project Controller	Ensuring effective project control by applying proven techniques in activities across the project lifecycle. Includes project process and controls, document controls, the procurement process, estimating, planning and scheduling, cost control and monitoring, commissioning and handover.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Project Control (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/2309/9	Engineering Construction Industry Training Board	61	251	

C2 - Level 3 Diploma in Commercial Support (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C2a	501/2298/8	Engineering Construction Industry Training Board	59	239	

C3 - Level 3 Diploma in Cost Engineering (Cost Control) (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C3a	501/2299/X	Engineering Construction Industry Training Board	59	229	

Competence qualifications available to this pathway (cont.)

C4 - Level 3 Diploma in Cost Engineering (Cost Planning) (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C4a	501/2310/5	Engineering Construction Industry Training Board	64	265	

C5 - Level 3 Diploma in Planning (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C5a	501/2297/6	Engineering Construction Industry Training Board	57	237	

C6 - Level 3 Diploma in Estimating (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C6a	501/2289/7	Engineering Construction Industry Training Board	58	239	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7137/3	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K2 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7315/1	Pearson Education Ltd	120	720	

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	500/7283/3	Pearson Education Ltd	120	720	

K4 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/8098/2	Pearson Education Ltd	120	720	

K5 - BTEC Level 3 Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	500/8154/8	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K5 provide the underpinning knowledge and understanding for C1 - C6. However, the following considerations and requirements are to apply:

While all of the five knowledge qualifications are able to satisfy the underpinning knowledge requirements of each of the Competence qualifications, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

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 into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved a Level 2 Foundation Apprenticeship in Engineering Construction through the Project Control Assistant pathway will be well equipped to progress into this pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Project Control pathway and an apprentice's attained knowledge and experience in estimating resources, scheduling tasks and monitoring costs can provide opportunities to progress into a role as Cost Controller, Estimator or Planner.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway: N/A

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Learning Hours for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Learning Hours (incl. QCF GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 15: Instrument Pipefitting

Description of this pathway

Instrument Pipefitting - Installing Engineering Construction Plant and Systems Small Bore Tubing Assemblies.

Total minimum credit value for this pathway: **227** Credits:

- Competence Qualification - 95 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (ESW Qualifications) - 12 Credits (Communication and Application of Number).

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)
Instrument Pipefitter	The production, installation and testing of complex small-bore pipework systems in Engineering Construction.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Installing Engineering Construction Plant and Systems Small Bore Tubing Assemblies (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	600/4304/0	Engineering Construction Industry Training Board	95	380-400	

Knowledge qualifications available to this pathway

K1 - BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/7315/1	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Engineering (QCF)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/8154/8	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7283/3	Pearson Education Ltd	120	720	

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K3 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

While both knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability 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 legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills and learning.

Transferable skills (Wales)

Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	N/A	N/A

Progression routes into and from this pathway

Progression into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. In addition to the qualifications detailed and the examples of relevant other experience, apprentices who have previously achieved the Foundation Level Apprenticeship in Engineering Construction through any of its pathways will be judged to be well equipped to progress into this Apprenticeship pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Instrument Pipefitting pathway and an apprentice's attained knowledge and experience in the manufacture and installation of small bore pressure pipework can provide opportunities to progress into a leading role within a number of electrical and mechanical disciplines.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their

careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway:

(no information)

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Foundation Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ECITB ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Guided Learning Hours (GLH) for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an

Apprenticeship Completion Certificate.

The number of Guided Learning Hours (GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Foundation Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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, Pathway 16: Construction and Completions Control

Description of this pathway

Construction and Completions Control - Monitoring of Engineering Construction activities in the Design and Build of Engineering Plant.

Total minimum credit for this Pathway: 238 Credits:

- Competence Qualification - 100 Credits;
- Knowledge Qualification - 120 Credits;
- Transferable Skills (Essential Skills Wales) - 18 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)
Construction Technician	Application of Construction principles during Engineering and site Construction stages of projects, to agreed budgets & schedules, including monitoring of activities ensuring execution to required HSE & Quality standards.

Qualifications

Competence qualifications available to this pathway

C1 - Level 3 Diploma in Monitoring Engineering Construction Activities (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
C1a	601/3887/7	Engineering Construction Industry Training Board	100	343-362	UCASValue

Knowledge qualifications available to this pathway

K1 - Level 3 BTEC Diploma in Mechanical Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K1a	500/7283/3	Pearson Education Ltd	120	720	

K2 - BTEC Level 3 Diploma in Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K2a	500/8154/8	Pearson Education Ltd	120	720	

Knowledge qualifications available to this pathway (cont.)

K3 - BTEC Level 3 Diploma in Construction and the Built Environment (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K3a	500/7137/3	Pearson Education Ltd	120	720	UCASValue

K4 - BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)					
No.	**Ref no.**	**Awarding organisation**	**Credit value**	**Guided learning hours**	**UCAS points value**
K4a	500/8098/2	Pearson Education Ltd	120	720	UCASValue

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K4 provide the underpinning knowledge and understanding for C1. However, the following considerations and requirements are to apply:

All of the knowledge qualifications deliver essential underpinning knowledge which will support the fundamental engineering and mathematical principles required to equip the Construction Technician apprentice with the understanding required to operate effectively and efficiently, and successfully turn project plans into productive work across a range of engineering disciplines.

While all three knowledge qualifications are able to satisfy the underpinning knowledge requirements of the Competence qualification, the qualifications are different and it will be incumbent upon the employer and training provider to agree which is most appropriate. The decision, including stipulation where required on selection of optional units within the agreed qualification, will be based upon such factors as the apprentice's prior learning, the anticipated role of the apprentice within the company and the associated activities the employer will require the apprentice to undertake during the on-the-job learning.

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 knowledge qualification and to assist in the selection of any optional units:

- 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 Apprenticeship to determine if the apprentice will have the ability to achieve one of the more academically demanding technical knowledge qualifications.
- The preferred learning style of the apprentice including the various assessment methodologies used.
- Custom and practice within the Sector, including any legislative requirements.
- Local and/or National Trade Union agreements.

Those apprentices that have already achieved competence and/or knowledge qualifications before entry to the Apprenticeship must select options which will equip them with new skills

and learning.

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 into this pathway is outlined within the Entry Requirement which covers academic qualifications, alternative qualifications, previous experience and attributes. While individuals who have successfully achieved a Level 2 Foundation Apprenticeship in Engineering Construction in any of its pathway disciplines will be eligible for progression into this Apprenticeship pathway, those who have completed either the Project Control Assistant or the Supporting Engineering Construction Operations pathways will be judged to be particularly well equipped for progression into this Apprenticeship pathway.

Successful completion of this pathway may allow progression into other industry occupations, including supervisory and management roles within Engineering Construction, including project management. Support and opportunities for further ongoing training and personal and career development of engineering construction workers is provided by the Industry Training Board (ECITB) and includes a full range of training and Higher Education/Further Education support and career development programmes and is supported by grant payments to ECITB inscope companies. In particular, successful completion of the Construction and Completions Control pathway and an apprentice's attained knowledge and experience in the monitoring of engineering construction activities can provide opportunities to progress into the role of a Construction Supervisor. This career path could see further progression into roles such as Construction Manager, Project Manager, Construction Director or Project Director.

The Engineering Construction Industry Training Board (ECITB) has launched an interactive online Career Progression Route Map tool, to make it easier for new industry entrants and those already working in engineering construction to find rewarding jobs and manage their career development. The engineering construction industry is critical to the country's economy and this tool has been designed to help get the right people into the right jobs with the right skills. From Apprentice to Managing Director, the ECITB Career Progression Route Map (CPRM) will give school leavers, graduates and others looking for a career in the industry, a clear

insight into the career paths available to them. The interactive tool provides detailed information on different roles, and the training and qualifications needed to enhance their careers, within the engineering construction industry.

Over the next 10 years around 60,000 new jobs will be created and the CPRM will help potential recruits and those in the early stages of their careers to match their skills more precisely. People can explore the varied, rewarding and exciting career opportunities in the UK's engineering construction industry and review potential career paths, learning from the experiences and career progression of those already in the industry through video podcasts and case studies. The CPRM currently contains information on around 170 roles and this will evolve as new roles are added or updated to meet industry needs. Users enter basic details such as qualifications, experience and interests and the tool filters through a wide selection of roles to highlight those that may be of particular interest. From this list the user can explore the details of these individual roles.

In addition to information about what individual industry roles involve and how these can fit together over a career, there are real life case studies that serve to illustrate how actual careers can evolve.

For further information on all of the above, please visit: www.ecitb.org.uk/

UCAS points for this pathway:

(no information)

Employee rights and responsibilities

There are two pathway options for completion of the nine national outcomes/standards for Employee Rights and Responsibilities (ERR). Both pathways are to be delivered as an induction programme and completed by the end of the Apprenticeship. Apprentices are encouraged to complete as much of the ERR as possible during the induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry and the legal framework they are required to operate within.

Option 1 (ERR Workbook) - Completion of the ECITB 'Record of Achievement in ERR'. Documented ERR outcomes for this pathway are issued to both providers of ERR and to apprentices explaining the benefits of ERR and its delivery and assessment:

1. Provider/employer - topics to be covered within each of the 9 national learning outcomes and guidance on delivery and assessment of ERR.
2. Apprentice - ERR workbook incorporating checklist of learning outcomes and evidence of attainment, development log.

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

To allow for flexibility in the sector, ECITB does not limit the method(s) of delivery and assessment for ERR but does provide examples and documentation to support the requirement that outcomes must be achieved, formally assessed and subject to quality assurance. Examples of ERR delivery and assessment include the following:

- Induction programme provided by employer
- Formal teaching and assessment
- Mentoring
- Workbooks
- Tasks and assignments
- Evidence gathering in related training areas
- Demonstration to an assessor, verbal or activity related of the learning outcome

The number of Guided Learning Hours (GLH) for this pathway option is 41. It has no QCF Credit Value.

Option 2 (QCF) - EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors (QCF): QRN 600/0290/6. A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be

uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

The number of Guided Learning Hours (GLH) for this pathway option is 41. It has a QCF Total Credit Value of 5.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

The nine national ERR outcomes to be achieved by the apprentice are as follows:

1. Knows and understands that employers and employees have a range of statutory rights and responsibilities under Employment Law. This includes the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & 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 & Safety and Equality & Diversity training included as 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, including details of Access to Work and Additional learning Support;
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

The Engineering Construction Industry (ECI) has an under-representation of women and ethnic groups in the workforce which mirrors a wider pattern of occupational segregation in science, engineering and technology industries in general. 1 Data shown in the ECITB 2008 Industry Report estimated the industry workforce as:

- a) 90% male (or 9:1), which is lower than the 18% of women found in Science, Engineering, Construction and Technology (SECT) sectors 2
- b) 97% white/abled persons, which is higher than the 90% nationally across Great Britain, with 3% from under-represented backgrounds (non-white/non-abled persons), compared with 10% of the British population

Furthermore, the workforce has a disproportionately high age distribution, with the impending retirement of many older workers. The workforce appears to be representative of the 1970s when many workers were recruited. While LMI data for the industry is UK wide rather than Welsh specific, there is nothing to suggest Wales deviates from the general pattern observed elsewhere.

The ECI strategy of improving procedures and systems for recruiting and qualifying people supports the government strategy of increasing social justice and opportunity. The industry continues to breakdown traditional barriers, widening its appeal and positively targeting non traditional audiences at both national and regional levels. It strengthens this by reinforcing positive images across gender and ethnicity, including minority groups, and by promoting an Equal Opportunities Policy to attract apprenticeship applications from anyone able to demonstrate the ability and attributes to successfully achieve its required framework outcomes. Employers and providers have a duty to comply with the Equality Act 2010 and play a full and active role in helping promote the industry and its career opportunities to all, including under-represented groups. For further guidance on the Equality Act, please go to: www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/

In terms of improving equality and the diversity balance, the ECI is engaged in ongoing initiatives in Wales to create a dynamic climate of change. In terms of attracting younger people into the industry, it continues to foster relationships with schools and colleges, promoting training and career opportunities by raising its profile across diverse communities. Initiatives include:

- ECI Career Roadshows utilising innovative drama
- Positive reinforcement through promotional literature and marketing
- Sponsorship of events and individuals

For further information on the sector, please click on the attached link: www.ecitb.org.uk/

Footnote References:

1 BERR, The Energy White Paper 2008
2 JIVE (Bradford College (the UK national partnership
3 BBC News, 8 April 2008

On and off the job training (Wales)

Summary of on- and off-the-job training

The total amount of on and off-the-job training hours for each pathway includes learning hours associated with all accredited framework qualifications (Knowledge qualification, Competence qualification, Essential Skills Wales qualifications, ERR Option 2 qualification or ECITB ERR Pathway Option 1). It also includes additional time necessary to meet all of the framework requirements including induction, mentoring, company training and progress reviews.

Training time for this Apprenticeship programme is split into on-the-job and off-the-job training hours, as described below. Minimum total learning hours for the apprentice to be able to complete the framework are specified below . Dependent on the choice of knowledge qualification and/or Competence qualification available within the Pathway, the actual total training hours to be delivered may be greater than specified below. It is incumbent on the training provider and employer to ensure that, where there is such an option, if the qualification with the greater attributed training hours is selected, these additional hours must be planned for and delivered and the apprentice be made aware of these additional requirements at the start of the Apprenticeship.

On and off the job training and delivery of learning hours must either have been provided:

- whilst working under an Apprenticeship Agreement; or
- during a 5 year qualifying period prior to working under an Apprenticeship Agreement ending on the date of application for an Apprenticeship Certificate.

Furthermore, delivery of on and off the job learning hours:

- must be planned, reviewed and evaluated jointly between the apprentice and tutor, teacher, mentor or manager;
- must allow training support via a tutor, teacher, mentor or manager;
- are delivered through one or more of the following methods:

1. individual and group teaching;
2. e-learning;
3. distance learning;
4. coaching;
5. mentoring
6. feedback and assessment;
7. collaborative/networked learning with peers;
8. guided study.

Total minimum on-the-job and off-the-job learning hours required to complete each Pathway:

Craft Apprenticeships:

Pathway 1 - Pipefitting

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1315

- Competence qualification = 644 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 2 - Mechanical Fitting

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1081

- Competence qualification = 410 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 3 - Welding (Pipework)

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1154

- Competence qualification = 483 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 4 - Welding (Plate)

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1074

- Competence qualification = 403 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 5 - Plating

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1046

- Competence qualification = 375 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 6 - Steel Erecting

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1106

- Competence qualification = 435 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 7 - Rigging (Moving Loads)

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1040

- Competence qualification = 369 LH
- Knowledge qualification = 360 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 8 - Electrical Installation

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1462

- Competence qualification = 505 LH
- Knowledge qualification = 646 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Technician Apprenticeships:

Pathway 9 - Non Destructive Testing

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1320

- Competence qualification = 289 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 10 - Instrument & Controls

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1552

- Competence qualification = 521 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 11 - Electrical Maintenance

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1597

- Competence qualification = 566 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 12 - Mechanical Maintenance

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1466

- Competence qualification = 435 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 13 - Design & Draughting

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1601

- Competence qualification = 510 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (3 x 60 LH) = 180 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 15 - Instrument Pipefitting

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1411

- Competence qualification = 380 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (2 x 60 LH: Application of Number & Communication) = 120 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Pathway 16 - Construction and Completions Control

Pathway duration – average of 36 months

Total Learning Hours (LH) = 1434

- Competence qualification = 343 LH
- Knowledge qualification = 720 LH
- Essential Skills wales (ESW) qualifications - (3 x 60 LH) = 180 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Project Control Apprenticeships:

Pathway 14 - Project Control

Pathway duration - average of 36 months

Total Learning Hours (LH) = 1320

- Competence qualification = 229 LH
- Knowledge qualification = 720 LH (based on the smallest technical certificate QCF GLH)
- Essential Skills wales (ESW) qualifications - (3 x 60 LH) = 180 LH
- ERR = 41 LH
- Induction, mentoring, company training, progress reviews = 150 LH

Balance of on and off-the-job learning / Apprenticeship Duration

In engineering construction the balance between on and off-the-job learning will differ in the formative years. Apprentices will generally attend a college or training provider for the first year of their Apprenticeship, and so off-the-job learning will likely form 100% of the total learning hours during this period.

On average, each Pathway takes 3 years to complete. However, apprentices following the Instrument & Controls, Electrical Maintenance or Mechanical Maintenance pathway destined for the offshore sector may decide, in consultation with their employer and training provider, to spend up to an additional year off-the-job at college or the training provider's premises (as with Year1). However, the minimum total learning hours will be unaffected. The final 2 years of all pathways within the Apprenticeship programme will be delivered in the workplace predominantly learning on-the-job but a proportion of off-the-job learning is included in the framework for this period of the apprentice's training.

Rules to Avoid Repeating Qualifications

Processes exist to ensure that applicants with prior knowledge, qualifications and experience are not disadvantaged by having to repeat learning. Refer to the On and Off-the-job training sections for guidance about prior attainment and achievement. Training providers and Awarding Organisations will also be able to advise on the current rules for accrediting prior

learning and recognising prior experience.

Off-the-job training

Off-the-job training is defined as time for learning activities away from normal work duties. The amount of off-the-job learning hours required to complete the framework includes 150 learning hours of additional time necessary to meet all the framework requirements covering general induction, mentoring, company training and progress reviews.

Dependent on the Pathway Knowledge qualification selected, learning hours required to achieve framework requirements may vary. The ***minimum*** off-the-job learning hours (LH) required for completion of this framework are as follows:

Craft Apprenticeships

Pathway 1 - Pipefitting - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 2 - Mechanical Fitting - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements - 150 LH

Pathway 3 - Welding (Pipework) - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements - 150 LH

Pathway 4 - Welding (Plate) - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements - 150 LH

Pathway 5 - Plating - 611 learning hours (LH):

- Knowledge qualification - 360 LH

- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 6 - Steel Erecting - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 7 - Rigging (Moving Loads) - 611 learning hours (LH):

- Knowledge qualification - 360 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 8 - Electrical Installation - 897 learning hours (LH):

- Knowledge qualification - 646 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Technician Apprenticeships:

Pathway 9 - Non Destructive Testing - 971 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 10 - Instrument & Controls - 971 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 11 - Electrical Maintenance - 971 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements - 150 LH

Pathway 12 - Mechanical Maintenance – 971 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 13 - Design & Draughting - 1001 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 90 LH (30 per Skill)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 15 - Instrument Pipefitting - 971 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Pathway 16 - Construction and Completions Control - 1001 learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 90 LH (30 per Skill)
- ERR - 41 LH
- Additional framework requirements – 150 LH

Project Control Apprenticeships:

Pathway 14 - Project Control - 1001 Learning hours (LH):

- Knowledge qualification - 720 LH
- Essential Skills Wales - 90 LH (30 per Skill)
- ERR - 41 LH
- Additional framework requirements – 150 LH

How this requirement will be met

Learning 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 in accordance with published procedures current at the time for the Apprenticeship Certification Wales (ACW) online system.

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 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 five years of applying for the 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 CQFW 'Recognition of Prior Learning' (RPL) 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, the off-the-job learning must have been acquired within five years of application for the Apprenticeship Certificate or have been continuously employed in the relevant job role in the industry for three years.

Off-the-job training needs to:

- 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 and induction.

Off the job training takes place throughout the Apprenticeship with learning hours provided away from the immediate pressures of the apprentice’s workplace. The first year of an apprentice's training will generally consist 100% of off-the-job learning. This ensures apprentices are not working in hazardous environments commensurate with the job role without having received all the necessary Health and Safety tuition that would support the situation, nor having the opportunity to first develop competences in a progressive way before being exposed to the hazards of work under site conditions. Training in this first year consists of block release at a training provider and/or further education college, although some off the job training may take place with the employer. Generally, the learning will take place from

0800 until 1600, Monday to Friday with the commencement of the off-the-job training signifying the commencement of the Apprenticeship itself. The nature of the engineering construction industry is such that, upon completion of the Year 1 off-the-job training, apprentices will be expected to undertake their on-the-job learning, experience and assessment at a number of different geographical locations.

The Apprenticeship begins with a planned **Induction** which includes an overview of the Apprenticeship framework; its requirements and the training and support apprentices can be expected to receive. This should include the issuing of the ERR workbook that supports delivery of the ERR element of the framework and any relevant documentation relating to the collection and evidencing of the Essential Skills Wales qualifications. It is recommended that a mentor be assigned to each apprentice to review their Apprenticeship progress on a regular basis. An apprentice may have more than one mentor over the duration of the Apprenticeship. **Induction** training may also take place at the beginning of the on the job training which normally commences in year 2.

The off-the-job learning to be completed in this first year of the Apprenticeship will consist of a thorough training in the fundamental, **practical skills** of the respective discipline in a workshop and/or simulated work setting. The apprentice will have the opportunity, away from the pressures of the workplace, to learn the skills of their chosen pathway and to become familiar with the tools, equipment and machinery, and importantly be able to use these in an effective and safe manner.

Also during the off-the-job learning period, apprentices will spend a proportion of their week in a classroom learning the theory (knowledge) that underpins the competence-based, practical elements of their discipline. The theory will be delivered at the training provider's premises, a college or a combination of both. There may also be a need for self study according to Training Providers', Colleges' or Awarding Organisations' requirements.

Provided the formative and summative assessments are successfully completed, each apprentice will achieve a Certificate for this **knowledge-based element** of their apprenticeship as described elsewhere in the framework. In decision with industry stakeholders, this framework provides access to a range of Knowledge qualifications (technical certificates) for each Pathway, all of which can provide the underpinning knowledge and understanding associated with the apprentice's discipline via a core and options approach, whilst allowing for a flexibility in choice to support business needs which 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 knowledge qualification in partnership with the employer and apprentice agree on the most appropriate knowledge qualification for the apprentice to be enrolled on – please refer to the framework section on qualifications for further guidance.

It is vital that each apprentice understands their **Employee Rights and Responsibilities (ERR).**

Principally, during the off-the-job training period of the Apprenticeship, apprentices will learn about their statutory rights and responsibilities and the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Apprentices will find out about sources of information and advice available to them on their employment rights and responsibilities and form an understanding of the role played by their occupation within their organisation and industry. Apprentices will learn about the types of representative bodies and understand their relevance to their skill, trade or occupation, and know where and how to get information and advice on their industry, occupation, training and career. It is also vital that apprentices can describe and work within their organisation's principles of conduct and codes of practice.

There are two pathway options for completion of the nine national outcomes/standards for ERR. Apprentices are encouraged to complete as much of the ERR programme as possible during their induction period as learning about these will help settle them into their training programme and to understand more about their occupation, organisation and industry. 41 learning hours off-the-job are allocated for this achievement.

ERR Option 1 (ECITB ERR Workbook)

Training providers/assessors are required to verify that the apprentice has achieved all of the outcomes before completing the 'ACW Universal ERR Declaration Form'. Completed forms should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

ERR Option 2 (QCF)

Apprentices complete the EAL Level 2 Award in Employment Rights and Responsibilities for New Entrants into the Science, Engineering and Manufacturing Sectors.

A verified copy of the Award Certificate or a completed 'ACW ERR Declaration Form' should be uploaded to the Apprenticeship Certification Wales (ACW) online system when applying for an Apprenticeship Completion Certificate.

A candidate will not be able to complete their Apprenticeship without evidence of achievement in ERR as stated in one of the above pathway options.

It is also a requirement of the framework that apprentices complete the requisite **Essential Skills Wales qualifications**. Half of the stated learning hours (30 per Skill) are to be delivered in an off-the-job training environment. Essential Skills Wales at Level 2 in Application of Number and Communication are mandatory for all pathways. Additionally, an Essential Skills Wales qualification in ICT at Level 2 is required for apprentices pursuing the Design and Draughting or one of the Project Control pathways.

Mentoring, company training and progress reviews are a vital component of an apprentice's development. These are ongoing throughout the Apprenticeship and should be planned for.

Off-the-job learning hours should be recorded and this can include an apprentice diary and/or portfolio where necessary in addition to the learning hours requirement attainment which is recorded on certificated forms. Employers and training providers must ensure evidence is recorded to substantiate learning hours requirements.

Evidence of off-the-job training hours

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

When claiming an Apprenticeship Certificate, a signed declaration is required from the Training provider stating that the total learning hours for the framework Pathway have been met by the learner, including the minimum on and off-the-job learning hours as stated within this framework. Evidence includes:

- Copies of accredited qualification certificates associated with the framework requirements
- ACW Universal ERR Declaration Form
- Signed declaration of attainment of overall framework learning hours requirements, including minimum on and off the job learning hours (provided by ECITB).

Applications for certification will be uploaded onto the Apprenticeship Certification Wales (ACW) online system in accordance with published procedures current at the time.

On-the-job training

On-the-job training is defined as skills, knowledge and competence gained within normal working duties. It is extremely important that an apprentice is provided with the opportunity to practise and apply the skills they have attained in the context of a real job environment. Delivered in the workplace through practical experience this is referred to as on the job training. A balance is to be achieved between off the job and on the job learning as required subject to the minimum framework requirements.

On the job training generally commences in Year 2 of the Apprenticeship programme.

The **minimum** on-the-job training hours required for completion of this framework are as follows:

Craft Apprenticeships:

Pathway 1 - Pipefitting - 704 learning hours (LH):

- Competence qualification - 644 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 2 - Mechanical Fitting - 470 learning hours (LH):

- Competence qualification - 410 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 3 - Welding (Pipework) - 543 learning hours (LH):

- Competence qualification - 483 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 4 - Welding (Plate) - 463 learning hours (LH):

- Competence qualification - 403 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 5 - Plating - 435 learning hours (LH):

- Competence qualification - 375 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 6 - Steel Erecting - 495 learning hours (LH):

- Competence qualification - 435 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 7 - Rigging (Moving Loads) - 429 learning hours (LH):

- Competence qualification – 369 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 8 - Electrical Installation - 565 learning hours:

- Competence qualification - 505 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Technician Apprenticeships:

Pathway 9 - Non Destructive Testing - 349 learning hours (LH):

- Competence qualification – 289 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 10 - Instrument & Controls - 581 learning hours (LH):

- Competence qualification – 521 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 11 - Electrical Maintenance - 626 learning hours (LH):

- Competence qualification - 566 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 12 - Mechanical Maintenance - 495 learning hours (LH):

- Competence qualification - 435 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 13 - Design & Draughting - 600 learning hours (LH):

- Competence qualification - 510 LH
- Essential Skills Wales - 90 LH (30 per Skill)

Pathway 15 - Instrument Pipefitting - 440 learning hours (LH):

- Competence qualification - 380 LH
- Essential Skills Wales - 60 LH (30 per Skill – Application of Number & Communication)

Pathway 16 - Construction and Completions Control - 433 learning hours (LH):

- Competence qualification - 343 LH
- Essential Skills Wales - 90 LH (30 per Skill)

Project Control Apprenticeships:

Pathway 14 - Project Control - 319 learning hours (LH):

- Competence qualification - 229 LH
- Essential Skills Wales - 90 LH (30 per Skill)

How this requirement will be met

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 competences or knowledge, this prior learning needs to be recognised and documented using the relevant QCF credit transfer, QCF exemption or RPL procedures (as detailed already in 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.

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 10% or more hours towards the on-the-job framework total through prior learning acquired from previous full time education, employment or other vocational programmes, then the

apprentice's learning programme should include 'customisation'.

Training providers are encouraged to identify additional on-the-job 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;
- following Essential Skills at a higher level than that specified in the framework;
- including one or more Wider Key Skills or other competency-based qualification(s)/Units relevant to the workplace.

For apprentices who have already achieved the relevant qualifications, they must have been certificated within five years from the date of application for the Apprenticeship Certificate or have been continuously employed in the industry for three years.

On-the-job Learning in engineering construction

Job roles within engineering construction require a thorough level of technical competence and knowledge, which will be undertaken through work based training, practice and experience.

On-the-job learning is required to be formally recorded, either in a diary, workbook, portfolio, or be verified by attendance records. This evidence needs to be checked and signed by the learner and assessor. Please see below for further details on maintaining records of training and experience on engineering construction sites.

On-the-job learning is likely to take 2 years, but this can be longer or shorter depending upon (a) the prior learning and experience of the apprentice as detailed above, (b) the opportunities open to the apprentice in the workplace that directly relate to the skills and knowledge to be attained, (c) the rate at which the learner is able to attain the skills and knowledge and apply them in real work situations. Each apprentice will have their own learning styles and the rate of learning will differ.

Competence Qualification Assessment

The contracting nature of the engineering construction industry means apprentices will commonly commence their on-the-job training and formal **Competence qualification** training in year two of their Apprenticeship and this is likely to be on customer sites geographically removed from their training provider or college. For this reason, the first year of an apprentice’s training is conducted wholly off-the-job with a training provider or college. Therefore, an apprentice will have gained a level of experience of competence training and practise but in a simulated, safe environment. Due to the safety critical requirements of the industry, this learning should be reinforced in the first year on-the-job apprentice training as part of the Competence element of the framework but this time on real job experiences in the workplace. This is before any additional on-the-job training hours are delivered to develop an

apprentice's skills and competence further. The mentor/trainer will effectively be coaching and supervising the apprentice on non-complex tasks until the experience, confidence and on-the-job ability of the apprentice grows. This on-the-job learning will be recorded by the apprentice and the resultant log book entry will be signed by the mentor/trainer and become a record of training and experience.

Delivery of the Competence qualification must be in accordance with the relevant Awarding Organisation's delivery and assessment guidance and Quality Assurance Procedures. The relevant information and documentation can be accessed on the ECITB website via the link below:

http://www.ecitb.org.uk/awa rds_and_qualifications/

During the period of on the job training the Competence qualification assessor will regularly visit the apprentice to provide feedback on tasks completed and where they fit into the Competence qualification to be achieved. The assessor will be looking to ensure that the apprentice is being adequately supervised and is getting the opportunity to gain experience in the skills required. The assessor will also recommend to the apprentice what he/she needs to do, the future activities to be involved in that would be most beneficial to the pursuit of the qualification. As the apprentice's experience grows the level of supervision required by the apprentice will gradually reduce and rather than only gaining experience, the apprentice will begin to be able to demonstrate competence.

Apprentices in their 3rd year will have attained a level of skill and have an understanding of their discipline such that they are able to work under decreasing amounts of supervision. This increase in autonomy and subsequent rise in confidence will introduce opportunities for the apprentice to work as an effective member of the team at work. Still compiling reports and gathering information on tasks completed, this evidence now has greater significance as it will be the basis for making decisions on the competence of the apprentice in aspects of the qualification. The assessor will still be visiting regularly, but the focus is more now on judging the evidence the apprentice has put together and on direct observation of the apprentice demonstrating their skill in the respective discipline on-the-job. As the completion of the qualification nears, the visits by the assessor may increase in frequency.

As these **Competence element** skills are being honed, the apprentice will be required to maintain a log of all tasks completed. This will aid reflective learning, providing apprentices with an opportunity to identify solutions to problems and to identify areas for further self-improvement and learning. This log will be made up of reports written by the apprentice, comments and feedback from the mentor and/or supervisor, copies of work instructions, copies of drawings and diagrams, test records, etc. The apprentice will be responsible for maintaining these logs in a Log Book provided by the ECITB. The apprentice will present this log book to his/her supervisor on a regular basis and ensure that it is in good order when the Competence Qualification's assessor visits.

Essential Skills Wales (ESW)

Learning associated with attaining the required Essential Skills Wales qualifications can continue on-the-job, as necessary subject to the minimum on the job requirement. This will allow the apprentice to acquire/apply the Skills in the workplace setting and complete their portfolio of evidence. The importance of a balance in ESW learning both on and off the job is reflected in framework requirements.

A log or diary record of on the job training in relation to ESW will assist the validation below of ESW learning hours provided.

Evidence of on-the-job training hours

On the job training must be formally recorded, either in a diary, workbook, portfolio, or training attendance records and/or qualification certification. This evidence needs to be checked and signed by the assessor and employer.

When claiming an Apprenticeship Certificate, a signed declaration is required from the Training provider stating that the total learning hours for the framework Pathway have been met by the learner, including the minimum on and off-the-job learning hours as stated within this framework. Evidence should include:

- Copies of accredited qualification certificates associated with the framework requirements;
- Signed declaration of attainment of overall framework learning hours requirements, including minimum on and off the job learning hours (provided by ECITB).

Applications for certification will be uploaded onto the Apprenticeship Certification Wales (ACW) online system in accordance with published procedures current at the time.

Wider key skills assessment and recognition (Wales)

Improving own learning and performance

The Wider Key Skill of "Improving own learning and performance" is already embedded within the learning undertaken in the mandatory units of all competence qualifications. Following consultation with employers in Wales, no additional delivery or assessment of this Wider Key Skill is required.

Working with others

The Wider Key Skill of "Working with others" is already embedded within the learning undertaken in the mandatory units of all competence qualifications. Following consultation with employers in Wales, no additional delivery or assessment of this Wider Key Skill is required.

Problem solving

The Wider Key Skill of "Problem solving" is already embedded within the learning undertaken in the mandatory units of all competence qualifications. Following consultation with employers in Wales, no additional delivery or assessment of this Wider Key Skill is required.

Additional employer requirements

CCNSG National Safety Passport:

Although not a statutory requirement for completion of this framework, it is a requirement of the engineering construction sector that all apprentices successfully complete and pass the Client Contractor National Safety Group (CCNSG) Course in order to obtain the certificated Safety Passport which is mandatory for entry on to engineering construction sites. Apprentices will need to attain this recognised industry standard, which meets the business needs of employers prior to the commencement of any on-the-job training. The 2-day course will be delivered off-the-job towards the end of the apprentice's first year of training to allow the maximum qualification period as the passport expires after 3 years and a 1-day refresher is then required.

ECITB has a national network of approved CCNSG training providers to deliver this recognised industry standard, which meets the business needs of employers.

OTHER:

Additionally, employers have the option to include additional components to the framework to meet their particular needs, e.g. further ECITB QCF Competencies/QCF Knowledge Units/Units and qualifications from the Quality Assured Lifelong Learning (QALL) pillar of the CQFW; and/or ECITB technical training/Technical Testing achievement as considered appropriate.

Additional Employer requirements are not a statutory part of the framework and, as such, funding may not be provided as part of the Apprenticeship framework in Wales. However, ECITB grant support to ECITB registered in-scope companies may be available in some instances. The ECITB Regional Account team for Wales will be pleased to assist with any enquiries - please go to www.ecitb.org.uk/Contact/ for current contact details.

apprenticeship
FRAMEWORKS ONLINE

For more information visit
www.afo.sscalliance.org