apprenticeship FRAMEWORK

Improving Operational Performance (Wales)

Latest framework version?

For any previous versions of this framework: www.acwcerts.co.uk/framework_library

Issue date: 04 April 2018

Published By	Apprenticeship Certification Wales
SEMTA	https://acwcerts.co.uk/web/

Document Status:
Issued

Prentisiaethau Apprenticeships

Improving Operational Performance (Wales)

Contents

Framework information

Information on the Issuing Authority for this framework:

SEMTA

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

Issue number: 14	**This framework includes:**
Framework ID: FR04237	Level 2 ☒ Level 3 ☐ Level 4-7 ☐
Date this framework is to be reviewed by: 31/03/2019	**This framework is for use in: Wales**

Short description

The Improving Operational Performance framework incorporates three pathways (Performing Engineering Operations Level 2, Performing Manufacturing Operations Level 2 and Business Improvement Techniques Level 2) that equip apprentices with the basic skills and knowledge to carry out a range of engineering and manufacturing processes at semi-skilled and operator level. The Business Improvement Techniques pathway ensures that business processes are planned and executed as efficiently as possible, identifying and minimising waste whilst ensuring the highest quality.

Contact information

Proposer of this framework

Semta has worked closely with its employers to define National Occupational Standards (NOS). From the NOS, qualifications such as NVQs and Technical Certificates have been developed that are suitable for use within this apprenticeship framework.

This framework was originally designed as the Industrial Applications Framework in the late 1990's. Since the introduction of the SASW, the framework has been regularly developed and modified to reflect the needs of employers and workplace practices. This includes the introduction of Pathway 3 - 'Business improvement Techniques'. The framework has been reviewed by employers sitting on the relevant Semta Sector Skills Strategy Groups (SSGs), together with the National Forum of Engineering Centres (NFEC) representing SME's, GTA England and the Large Employer Group comprising: BAE Systems, GKN, Pepsico, Airbus, Jaguar Landrover, Siemens, Ford, Rolls Royce, Britvic, Pilkington and their supply chains.

This Improving Operational Performance (IOP) Apprenticeship at Level 2 will ensure that 16 to 25 year olds and post 25 year olds are given the appropriate skills, knowledge and understanding required in the workplace.

Developer of this framework

Name:	Bonita Searle-Barnes
Organisation:	Semta
Organisation Type:	Sector Skills Council
Job Title:	Technical Specialist - Standards and Frameworks
Phone:	01923 238441
Email:	frameworks@semta.org.uk
Postal address:	Unit 2, The Orient Suite Greycaine Road Watford Herts WD24 7GP
Website:	www.semta.org.uk

Issuing Authority's contact details

Issued by:	SEMTA
Issuer contact name:	Elinor Wallace
Issuer contact phone:	0845 6439001
Issuer Email:	IssuingAuthority@semta.org.uk

Revising a framework

Why this framework is being revised

This framework is being revised to:

- remove QCF from qualification titles, as requested by Awarding Organisations
- remove competency and knowledge qualifications which are no longer available
- remove ERR qualifications which are no longer available

NOTE

The following ERR qualification expires on the 30/04/2018 and will no longer be available to learners from 01/05/2018:

- Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment 501/1793/2

Summary of changes made to this framework

Amendments made 3rd Jan 2024

Pathway 1 – Added 2 additional knowledge qualifications:

Pearson BTEC Level 3 National Diploma in Electrical Engineering 601/7579/5

Pearson BTEC Level 3 National Diploma in Mechanical Engineering 601/7583/7

Amendments made 26th April 2021

Pathway 1 - Added new qualifications:
601/9053/X Pearson BTEC Level 3 Award in Advanced Manufacturing Engineering (Development Technical Knowledge)
601/9049/8 Pearson BTEC Level 3 Certificate in Advanced Manufacturing Engineering (Development Technical Knowledge)
Pathway 2 & 3 - Added new qualifications:

Pearson BTEC Level 2 Certificate in Engineering Operations (Knowledge)
Pearson BTEC Level 2 Diploma in Engineering Operations (Knowledge)

Pathway 1 – Removed following qualifications:
PEO Competence qualification - no replacement 601/2547/0
Knowledge Quals:

K22 500/7799/5
K23 500/8098/2
K24 500/8154/8
K25 500/7319/9
K26 500/7283/3
K27 500/7315/5
K28 500/7841/0
K39 500/8270/X

Pathway 2 - Removed following qualifications:

PMO Competence qualification 501/0659/4- no replacement

K4 600/3050/1
K6 500/8270/X

Pathway 3 - Removed following qualifications:

Remove BIT Competence qualification - no replacement 501/0585/1

K2 501/0020/8
K6 500/8270/X

==**End of amendments made 26/4/21**==

Previous changes Made:

All pathways

- Two ERR qualifications have been removed

Pathway 1: Performing Engineering Operations (PEO)

- Two competency qualifications have been removed
- Two knowledge qualifications have been removed

Pathway 2: Performing Manufacturing Operations (PMO)

- Four competency qualifications have been removed
- Two knowledge qualifications have been removed

Pathway 3: Business Improvement Techniques (BIT)
- Three competency qualifications have been removed
- Three knowledge qualifications have been removed

Qualifications removed

All pathways

- EAL Level 2 Award in Employment Rights and Responsibilities for new Entrants into the Science, Engineering and Manufacturing Sectors (QCF) 600/0290/6
- Agored Cymru Level 2 Award In Employment Rights and Responsibilities (QCF) 600/7776/1

Pathway 1: Performing Engineering Operations (PEO)

- ETCNI Level 2 NVQ Diploma in Performing Engineering Operations (QCF) 601/1688/2
- NOCN Level 2 NVQ Diploma in Performing Engineering Operations 603/0649/X

- Agored Cymru Level 2 Award in Industrial Environment Awareness (QCF) 601/8469/3?
- NOCN Level 2 Award in Awareness of the Industrial Environment 600/0452/2

Pathway 2: Performing Manufacturing Operations

- PAA\VQSET Level 2 NVQ Diploma in Performing Manufacturing Operations (QCF) 501/0628/4
- ETCNI Level 2 NVQ Diploma in Performing Manufacturing Operations (QCF) 600/2923/7
- Agored Cmyru Level 2 NVQ Diploma in Performing Manufacturing Operations (QCF) 601/8468/1
- NOCN Level 2 NVQ Diploma in Performing Manufacturing Operations 603/0300/1

- Agored Cymru Level 2 Award in Industrial Environment Awareness (QCF) 601/8469/3
- NOCN Level 2 Award in Awareness of the Industrial Environment 600/0452/2

Pathway 3: Business Improvement Techniques (BIT)

- PAA\VQSET Level 2 NVQ Diploma in Business Improvement Techniques (QCF) 500/8354/5
- FAQ Level 2 NVQ Diploma in Business Improvement Techniques 601/4342/3
- ETCNI Level 2 NVQ Diploma in Business Improvement Techniques (QCF) 600/2259/0

- PAA\VQSET Level 2 Certificate in the Improvement of Business Performance (QCF) 600/4004/X
- FAQ Level 2 Certificate in Business Improvement Techniques 601/4341/1
- Agored Cymru Level 2 Certificate in Business-Improvement Techniques (QCF) 601/8470/X

Qualifications added

None

Qualifications that have been extended

None

Purpose of this framework

Summary of the purpose of the framework

The purpose of this framework is to continue to address the changing skills needs of employers in Engineering Manufacture; these are highlighted in Semta's Wales Sector Skills Assessment for Science, Engineering and Manufacturing Technologies, to address the manufacturing issues highlighted in the Webb Review - Skills That Work for Wales.

Process, plant and machine operatives (Level 2 roles) technical roles account for 18% of total Advanced Manufacturing and Engineering (AME) employment in Wales (approximately 17,000 people). In total, 4% of AME employers felt they had skills gaps in their operator workforce. These were put down to lack of experience, failure to train and develop staff, lack of motivation and the inability of the workforce to keep up with change. It is estimated that 15% of operators had skills gaps. Within the sector itself, technical, practical and job-specific skills were highlighted as the main skills gaps, with problem solving, team working and general communication skills being secondary.

The age profile of the current workforce presents a recruitment challenge as 38% of AME employees in Wales are aged 50+ yet only 6.2% are aged under 25 years old. It has been anticipated that there will be a net requirement for 1,600 operators (320 per annum) over the period 2016-2020 just to cover retirements.

Without sufficient engineers being trained in Wales, there is a risk that the country will be unable to meet the labour needs of high-profile infrastructure projects like the Swansea Bay Tidal Lagoon – a recent report suggests that Wales could meet >90% of the skills needs for that project with sufficient forward planning.

This requirement can be met by attracting new candidates from a range of diverse backgrounds and up-skilling the existing workforce to ensure that they have the skills, knowledge and experience to enable their companies to remain competitive and profitable.

Many companies questioned are introducing lean manufacturing and continuous improvement techniques in order to improve productivity and competitiveness. It is essential that these techniques are employed in the face of stiff international competition from places such as China and the Pacific Rim, who can undercut manufacturing costs in Wales due to lower wage rates. It is no coincidence that highest performing companies in Wales are those that train their employees in Business Improvement Techniques.

The Improving Operational Performance framework (previously the Industrial Applications framework) addresses the fundamental skills needs of a wide variety of engineering, manufacturing, assembly and process operators through the provision of two pathways, Performing Engineering Operations NVQ Level 2 (PEO2) and Performing Manufacturing

Operations NVQ Level 2 (PMO2). In 2015, Level 2 Improving Operational Performance made up a third of all apprenticeship certification in Wales.

The PEO2 pathway gives apprentices working in engineering a basic all-round grounding in engineering operations and techniques. The competence element is designed to be tailored to engineering operations and techniques. On completion they will be of semi-skilled status; typical job roles would include metal working operatives, plant and machine operatives, quality control, routine inspection and testing, production of parts using computer controlled equipment and basic maintenance activity. This pathway will also play an increasingly important role in the short term in providing potential apprentices at Level 3.

The major Work Based Learning (WBL) contract holders in Wales have requested a series of Level 3 Technical Certificates while using Level 2 NVQ Diplomas via PEO. They consider this allows the right Technical Certificate to be given to the learner to underpin the NVQ at the right age based on academic ability and industry need. It also allows fast track progression onto Level 4 academic qualifications and frameworks.

The PMO2 pathway focuses on training apprentices to operate effectively in a manufacturing environment. Typical job roles include assembly operations of electrical and electronic products, vehicles, aerospace, marine, metal goods and production of moulded products. Other roles include receiving and checking raw materials and sub-assemblies, inspection, test and quality control.

The introduction of a third pathway, Business Improvement Techniques Level 2 (B-IT2), and the title change of the framework provides an industry standard programme centred on the proven tools and techniques of lean process/quality improvement activities. It is designed to support continuous improvement by promoting effective team working and developing lean skills across the wider workforce.

The B-IT2 NVQ is delivered by high-achieving lean process practitioners and is a down-to-earth, hands-on programme designed for operators in companies that have lean systems in place but are looking to engage the wider workforce in continuous improvement activities. It teaches them how to identify and eliminate waste, create flow and improve quality leading to greater efficiency and increased profitability. This programme will be essential in ensuring that Welsh companies can compete against strong international competition.

Aims and objectives of this framework (Wales)

The aim of this framework is to attract young people into the engineering manufacturing industry, and will provide apprentices with the skills, underpinning knowledge and transferable skills required to operate at operator or semi-skilled level in an engineering or manufacturing environment carrying out a wide variety of defined activities.

Further objectives are to:

- attract new people into the Welsh engineering/manufacturing sector from a diverse range of backgrounds to replace those who naturally leave the sector and those 9% who are 60+ who will retire sometime in the next 5 years
- develop more operators and semi-skilled people through Foundation Apprenticeships
- provide apprentices with the basic engineering and manufacturing skills, underpinning knowledge, business improvement tools and techniques to carry out operator and assembly roles in engineering and manufacturing
- provide a structured training programme to develop and upskill the workforce
- introduce a Business Improvement Techniques (B-IT) pathway to benefit organisations across all sectors where there is a need to review business processes in order to identify and eliminate waste and to improve quality
- ensure apprentices can undertake engineering and manufacturing operations safely and effectively
- provide a range of pathways that meet engineering and manufacturing employers' needs
- improve overall operational performance through improving skills
- help improve recruitment and retention rates within the industry by offering appropriate career progression
- improve productivity rates and thus profitability (GVA per employee)
- tackle the diversity issue within the sector, especially under representation of women (only 20% of the workforce is female, compared to 50% for all sectors in Wales)
- provide a basic introduction to engineering and manufacturing through the PEO2 route for
- apprentices wishing to become apprentices at Level 3
- increase the overall level of participation in apprenticeship training from its current 9% and contribute to the target of 100,000 apprenticeship starts over 5 years in Wales
- increase the level of general literacy and numeracy through Essential Skills
- tackle the carbon footprint by maximising efficiency and eliminating waste
- develop apprentices employability and skills making them more attractive to all employers whichever career they choose.

Entry conditions for this framework

The Level 2 Foundation framework covers a range of occupations in three pathways. Employers wish to attract applicants who have an interest in working in an engineering or manufacturing industry, welcoming applicants from a diverse range of backgrounds and anticipate that they will have a wide range of experience, achievements and qualifications.

The Foundation Apprenticeship in Improving Operational Performance (IOP) is suitable for applicants who have five GCSEs grade D to E (new equivalent grades 3 to 2) or above including Maths, English and a Science. This is not a hard and fast rule but may vary according to the job role (operator or semi-skilled) and the suitability of individual applicants.

Employers would be interested in applicants who:

- have previous work experience or employment in the sector or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- have GCSEs in English, Maths, and a Science (grade D to E or higher/new equivalent grade 2 or higher) or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship programme) or
- without formal qualifications can show, possibly through a portfolio, that they have the potential to complete this apprenticeship, through having previously worked in the sector at Level 2 or
- are keen and motivated to work in an engineering/manufacturing and/or process/quality improvement environment or
- are willing to undertake a course of training both on-the-job and off-the-job and apply this learning in the workplace or
- are practically minded and want to work with their hands or
- have completed a Young Apprenticeship in Engineering or other related area or
- have a Welsh Baccalaureate or
- have completed the Essential Skills Qualifications (ESQ) or
- have an interest in problem solving and organising activities or
- have completed tests in basic numeracy, literacy and communication skills and have spacial awareness.

The selection process on behalf of employers may include initial assessment where applicants will be asked if they have any qualifications or experience that can be accredited against the requirements of the apprenticeship. They may also be required to take tests in basic numeracy and literacy, communication skills and spatial awareness. There may also be an interview to ensure applicants have selected the right occupational sector to meet their needs and expectations and those of their employer and are motivated to become an apprentice, as undertaking an apprenticeship is a major commitment for both the individual and the employer.

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

Applicants wishing to undertake a Level 3 underpinning knowledge qualification should already have achieved a Technical Certificate at Level 2 **or** have GCSEs at a minimum of grade C in Maths and Science **or** have a Welsh Baccalaureate.

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

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

Where applicants have accredited prior learning then apprentices must be offered training which helps them to deliver new skills and learning at a higher level.

Essential Skills Wales (ESW)
Apprentices registered on a SASW Apprenticeship on or after 1st January 2016 must complete the required mandatory new Essential Skills Qualifications (ESQ) at Level 1: Essential Communication Skills and Essential Application of Number Skills Essential - although the industry has stated that Essential Digital Literacy Skills is not required for these job roles.

Apprentices who have enrolled prior to 31st December 2015 can continue to work towards either Key Skills / Essential Skills Wales (AON, Comms, and ICT / Digital Literacy) as required by the framework, which will be accepted within SASW.

For apprentices registered on or after 14th October 2016, recognised proxies for the new ESQ qualifications are accepted - these are listed in the front of this framework document. This includes the Welsh Baccalaureate Qualification (WBQ) with ESQ and GCSE components. Candidates undertaking the new WBQ will not be required to provide individual certificates as evidence.

Apprenticeship starts before the 14th October 2016 must continue to meet the 2013 SASW

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

Knowledge qualifications

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

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

Competence qualifications

If applicants already have one of the Foundation (Level 2) Competence Qualifications before starting their apprenticeship (see competence qualifications page), they may count this and will not have to repeat the qualification providing they have achieved this qualification within five years of starting their apprenticeship. The hours that were spent gaining the qualification may be counted towards the total hours for the apprenticeship.

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

Wider Key Skills

Wider Key Skills qualifications are no longer required for this framework.

Note: Apprentices already registered on an earlier framework can have Wider Key Skills qualifications previously attained in the context of the Welsh Baccalaureate Qualification (WBQ) accepted, provided the specific proof of certification of the title(s) and level(s) of those qualifications is provided. The WBQ certificate does not provide this specific evidence.

Prior experience in the sector

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

Level 2

Title for this framework at level 2

Foundation Apprenticeship in Improving Operational Performance

Pathways for the framework at level 2:

Pathway 1:   Performing Engineering Operations
Pathway 2:   Performing Manufacturing Operations
Pathway 3:   Business Improvement Techniques

Level 2, Pathway 1: Performing Engineering Operations

Description of this pathway

Performing Engineering Operations Level 2 (all manufacturing sub-sectors)

The minimum pathway duration time for completion for apprentices age 16 to 18 is 12 months.

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 64 credits

Competence - minimum on-the-job training hours = 214 training hours

Off-the-job training includes a minimum of 168 additional training hours for Essential Skills and mentoring.

If undertaking a Level 2 Knowledge qualification

Pathway with minimum total learning hours (Level 2 technical certificate) = 452 training hours
- Competence = minimum 214 hours/ minimum 40 credits
- Knowledge = minimum 70 hours (smallest technical certificate) / minimum 12 credits
- Essential Skills (notional value 60 hours x 2) = 120 hours /12 credits
- Mentoring 48 weeks x 1 hour/week = 48 hours

Year 1 = 452 Hours   Year 2 Nil

Minimum credit value - 64 credits

Minimum off-the-job training hours = 238 training hours

Knowledge - Level 2 Award in Industrial Environment Awareness (70 training hours) plus 168 additional training hours for Essential Skills and mentoring.

If undertaking a Level 3 Knowledge qualification

Pathway with minimum total learning hours (Level 3 technical certificate) = 642 training hours
- Competence = minimum 214 hours/ minimum 40 credits

- Knowledge = minimum 260 hours (smallest technical certificate) / minimum 37 credits
- Essential Skills (notional value 60 hours x 2) = 120 hours /12 credits
- Mentoring 48 weeks x 1 hour/week = 48 hours

Year 1 = 642 Hours Year 2 Nil

Minimum credit value = 89 credits

Minimum off-the-job training hours = 428 training hours

Knowledge - EAL Level 3 Diploma in Cycle Maintenance (260 training hours) plus 168 additional training hours for Essential Skills and mentoring.

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

There are no additional requirements other than the general entry conditions.

Job title(s)	Job role(s)
Metal working and Machine Operatives	Bending, punching, notching, shearing, and cropping sheet metal fabrications
Quality Control (batch work)	Batch sampling of components or sub assemblies to identify if they are compliant to dimensional tolerances and material/functional integrity requirements
CNC Operator	Operation of Computer Numerically Controlled machines involved in batch production
Maintenance Operative	Ensuring plant equipment and manufacturing systems remain operational through preventative and on condition maintenance
Process Operator	Treatment of metal or plastic products electrolytically with chromium, zinc, copper, cadmium or other metal to provide protective or decorative surfaces or to build up worn surfaces

Qualifications

Competence qualifications available to this pathway

C1 – Level 2 NVQ Diploma in Performing Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	600/9471/0	City and Guilds	40	214	N/A
C1b	601/1785/0	PAA\\VQ-SET	40	214	N/A
C1c	600/8264/1	EAL	40	214	N/A

Knowledge qualifications available to this pathway

K1 – EAL Level 2 Award in Industrial Environment Awareness

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6147/1	EAL	12	70	N/A

K2 – EAL Level 2 Diploma in Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7595/0	EAL	39	330	N/A

K3 – City and Guilds Level 2 Certificate in Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	600/0880/5	City & Guilds	35	300	N/A

K4 – City & Guilds Level 3 Diploma for On-Aircraft Maintenance - Category A

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/1927/X	City & Guilds	72	595	N/A

K5 – City & Guilds Level 3 Diploma In Aircraft Maintenance (Civil Aircraft Electrical and Avionics)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	600/1970/0	City & Guilds	73	585	N/A

K6 – City & Guilds Level 3 Diploma In Aircraft Maintenance (Civil Aircraft Mechanical)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K6a	600/1929/3	City & Guilds	80	655	N/A

K7 – City & Guilds Level 3 Diploma In Aircraft Maintenance (Military Aircraft Mechanical)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K7a	600/1972/4	City & Guilds	79	645	N/A

K8 – City & Guilds Level 3 Diploma in Aircraft Manufacture (Electrical and Avionics Manufacture)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K8a	600/1932/3	City & Guilds	60	475	N/A

K9 – City & Guilds Level 3 Diploma in Aircraft Manufacture (Mechanical Manufacture)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K9a	600/1925/6	City & Guilds	62	490	N/A

K10 – City & Guilds Level 3 Diploma in Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K10a	600/0882/9	City & Guilds	54	480	N/A

K11 – City & Guilds Level 3 Diploma in Marine Construction, Systems Engineering and Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K11a	600/2306/5	City & Guilds	49	450	N/A

K12 – EAL Level 3 Diploma in Aircraft Maintenance Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K12a	501/1113/9	EAL	78	600	N/A

K13 – EAL Level 3 Diploma in Cycle Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K13a	501/0988/1	EAL	37	260	N/A

K14 – EAL Level 3 Diploma in Electrical and Electronic Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K14a	501/1121/8	EAL	78	600	N/A

K15 – EAL Level 3 Diploma in Engineering and Technology (Progressive)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K15a	501/1419/0	EAL	97	750	N/A

K16 – EAL Level 3 Diploma in Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K16a	501/1130/9	EAL	78	600	N/A

K17 – EAL Level 3 Diploma in Equipment Maintenance Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K17a	600/1026/5	EAL	46	350	N/A

K18 – EAL Level 3 Diploma in Fabrication and Welding Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K18a	501/1131/0	EAL	78	600	N/A

K19 – EAL Level 3 Diploma in Maintenance Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K19a	501/1112/7	EAL	78	600	N/A

K20 – EAL Level 3 Diploma in Mechanical Engineering Technology (Progressive)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K20a	501/1422/0	EAL	97	750	N/A

K21 – EAL Level 3 Diploma in Mechanical Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K21a	501/1155/3	EAL	78	600	N/A

K22 – City & Guilds Level 2 Certificate in Marine Construction, Systems Engineering and Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K22a	600/2304/1	City & Guilds	32	280	N/A

K23 – City & Guilds Level 2 Diploma in Aircraft Maintenance (Civil Aircraft)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K23a	600/1928/1	City & Guilds	56	485	N/A

K24 – City & Guilds Level 2 Diploma in Engineering - Weapons Engineering Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K24a	600/3167/0	City & Guilds	42	341	N/A

K25 – City & Guilds Level 2 Diploma in Aircraft Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K25a	600/3409/9	City & Guilds	40	340	N/A

K26 – ABC Level 2 Certificate in Fabrication and Welding Practice

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K26a	600/5190/5	ABC	31	260	N/A

K27 – ABC Level 3 Diploma in Fabrication and Welding Practice

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K27a	600/5130/9	ABC	57	480	N/A

K28 – City & Guilds Level 2 Diploma in Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K28a	600/0881/7	City & Guilds	42	360	N/A

K29 – EAL Level 2 Certificate in Positional Welding

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K29a	501/1807/9	EAL	23	170	N/A

K30– EAL Level 2 Certificate in Metals Industries Processes

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K30a	500/7998/0	EAL	18	110	N/A

K31 – City & Guilds Level 2 Diploma in Engineering - Military Marine and Air Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K31a	600/2708/3	City & Guilds	42	295	N/A

K32 – EAL Level 2 Diploma In Engineering Technology - Motorsport

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K32a	601/3375/2	EAL	59	340	N/A

K33 – EAL Level 2 Certificate in Engineering Technologies

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K33a	601/5670/3	EAL	25	230	N/A

K34 – EAL Level 2 Diploma in Engineering Technologies X

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K34a	601/5669/7	EAL	39	330	N/A

K35 – EAL Level 2 Intermediate Diploma in Electrical Installation

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K35a	601/4561/4	EAL	50	486	N/A

K36 – EAL Level 2 Diploma In Electrical Installation

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K36a	600/6724/X	EAL	50	486	N/A

K37 – EAL Level 2 Certificate in Cycle Maintenance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K37a	603/0586/1	EAL	25	150	N/A

K38 – ABC Level 2 Certificate in Fabrication and Welding Practice

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K38a	603/2243/3	ABC	26	230	N/A

K39– ABC Level 3 Diploma in Fabrication and Welding Practice

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K39a	603/2259/7	ABC	50	440	N/A

K40 – Pearson BTEC L3 Award in Advanced Manufacturing Engineering (Development Technical Knowledge)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K40a	601/9053/X	Pearson	X	360	N/A

K41 – Pearson BTEC L3 Certificate in Advanced Manufacturing Engineering (Development Technical Knowledge)

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K41a	601/9049/8	Pearson	X	540	N/A

K42 – Pearson BTEC L2 Certificate in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K42a	603/6351/4	Pearson	X	210	N/A

K43 – Pearson BTEC L2 Diploma in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K43a	603/4722/3	Pearson	X	360	N/A

K44 – Pearson BTEC Level 3 National Diploma in Electrical Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K44a	601/7579/5	Pearson	98	720	N/A

K45 – Pearson BTEC Level 3 National Diploma in Mechanical Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K45a	601/7583/7	Pearson	99	720	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 – K45 provide the underpinning knowledge for C1a - C1c

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications support key areas of technical knowledge development needed for apprentices in engineering and manufacturing industries to carry out their duties in a safe and efficient manner.

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

Delivery methods for knowledge based qualifications may vary, from a conventional college based environment, to delivery through a combination of this and written/web-based/distance learning materials.

After completing the designated knowledge qualification apprentices should be able to:

-

understand health and safety requirements
- be able to communicate in an engineering manufacturing environment
- be able to work effectively in an engineering manufacturing environment
- understand basic engineering manufacturing principles and processes.

Applicants wishing to undertake a Level 3 underpinning knowledge qualification should already have achieved a Technical Certificate at Level 2 **or** have GCSEs at a minimum of grade C (new equivalent grade 4) in Maths and Science **or** have a Welsh Baccalaureate.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement <u>above</u> the minimum SASW requirement?   YES   ☐ NO ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement <u>above</u> the minimum SASW requirement?   YES   ☐ NO ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework?   **YES** ☐   **NO** ☒

Progression routes into and from this pathway

Progression routes into this pathway

Entrants to this pathway are likely to primarily be school leavers who have completed their GCSE studies, and in some cases relevant vocational activity such as a Diploma in Engineering, a Welsh Baccalaureate, Welsh Baccalaureate (with Principal Learning) or completing a Pre-Apprenticeship programme or extended work experience. More specifically they may:

- have previous employment or work experience in the sector or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- have GCSE's in English, Maths and a Science (grade D to E or higher/new equivalent grade 2 or higher) or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship programme) or
- be keen and motivated to work in the engineering/manufacturing industry or
- be practically minded and want to work with their hands or
- be willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace or
- have completed a Pre-Apprenticeship in Engineering or other related area or
- have a Welsh Baccalaureate or
- have completed the Essential Skills Qualifications (EQS) or
- have an interest in problem solving and organising activities or
- have completed tests in basic numeracy, literacy and communications skills and have spatial awareness.

Other entrants may have experience from working in the sector in an engineering or manufacturing context, and are now seeking to become qualified by undertaking an apprenticeship programme.

Particular interest would be shown to those applicants who have had previous work experience or employment in the sector.

Progression routes from this pathway

It is likely that a significant number of Foundation Apprentices will progress on completion of this pathway to the Apprenticeship in Engineering Manufacture at Level 3, as the full PEO is the preferred method of acquiring basic engineering skills among employers on this programme.

More generally, most ex-apprentices will start off by carrying out semi-skilled job roles within manufacturing and engineering (see job roles described for the pathway). It is likely that a

period of consolidation will be required in these roles before progression can take place. Most will aspire to a combination of internal promotion within their companies to team leader or supervisor level, while at the same time this affords the opportunity to undertake further education qualifications or an Apprenticeship to upgrade their competence and knowledge to fully skilled status. The Apprenticeship in Engineering Manufacture at Level 3 offers a choice of 14 occupational sub-sectors such as aerospace, automotive, marine, electrical/electronics etc. This gives wide ranging opportunity.

If they progress on to the Level 3 framework and already possess a Level 3 Technical Certificate, the Work Based Learning (WBL) contract holders will allow a Level 4 Technical Certificate to be included, depending on industry demand.

The general nature of the Performing Engineering Operations Level 2 NVQ can also allow for apprentices to move between and across sectors.

To further assist apprentices plan their careers we recommend they visit the following websites:

https://www.gov.uk/apprenticeships-gu ide

https://nationalcareersservice.direct.gov.uk/advice/pla nning/jobfamily/Pages/manufactureandengineering.aspx

UCAS points for this pathway:

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework?   **YES**   ☐   **NO**   ☒

Delivery and assessment

Employee Rights and Responsibilities (ERR) is no longer compulsory, but Semta recommends that all apprentices (especially the 16 years -18 years group) receive it as part of their induction.

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

Method 1 - Qualifications

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

Qualification details:
Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment 501/1793/2
Credit value: 4 credits
Training hours: 40

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

This qualification expires on 30/04/2018 and will no longer be available to new starts from 01/05/2018

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

Qualification details:
City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work

600/2819/1
Credit value: 2 credits
Training hours: 15

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

1c. BIIAB have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements.

Qualification details:
BIIAB Level 2 Award in Employment Rights and Responsibilities 601/4607/2
Credit value: 2 credits
Guided learning hours: 16

Please note: Although it may be possible to complete ERR in a minimum of 16 training hours, Semta recommend a minimum of 40 training hours are taken to complete the ERR requirements.

These qualifications will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being. Apprentices achieving the qualifications will have demonstrated that they have the underpinning knowledge relevant for the engineering/manufacturing environment which satisfies the Specification for Apprenticeship Standards for Wales (SASW).

Method 2 - Workbook

Semta has produced an Apprentice ERR workbook that is available from:
customercare@eal.org.uk

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

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

Level 2, Pathway 2: Performing Manufacturing Operations

Description of this pathway

Performing Manufacturing Operations Level 2 (all manufacturing sub-sectors)

The minimum pathway duration time for completion for apprentices age 16 to 18 is 12 months.

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 72 credits

Competence - minimum on-the-job training hours = 216 training hours

Off-the-job training includes a minimum of 168 additional training hours for Essential Skills and mentoring.

Pathway with minimum total learning hours = 4405 training hours
• Competence = minimum 216 hours/ minimum 48 credits
• Knowledge = minimum 56 hours (smallest technical certificate)
• Knowledge = minimum 12 credits (smallest technical certificate)
• Essential Skills (notional value 60 hours x 2) = 120 hours /12 credits
• Mentoring 48 weeks x 1 hour/week = 48 hours

Year 1 = 440 Hours   Year 2 Nil

Minimum credit value - 72 credits

Minimum off-the-job training hours = 224 training hours

Knowledge - City & Guilds Level 2 Certificate in Manufacturing Practices (56 training hours) plus 168 additional training hours for Essential Skills and mentoring.

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

There are no additional requirements other than the general entry conditions.

Job title(s)	Job role(s)
Manufacturing Process Operator	Sets and operates machines during production, plans and sets up the sequence of operations according to drawings, layouts and other instructions
Production Inspector	Inspects sub-assemblies or finished products for faults before the next phase of production or delivery to the customer
Assembly Operator	Assemble products using jigs and tools, could work in the following sectors: electrical, electronic, automotive, aviation, metal goods, marine etc.

Qualifications

Competence qualifications available to this pathway

C1 – Level 2 NVQ Diploma in Performing Manufacturing Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	501/0928/5	EAL	48	216	N/A
C1b	501/1313/6	City & Guilds	48	216	N/A
C1c	601/2684/X	Highfield Qualifications	48	216	N/A

Knowledge qualifications available to this pathway

K1 – EAL Level 2 Award in Industrial Environment Awareness

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	500/6147/1	EAL	12	70	N/A

K2 – EAL Level 2 Diploma in Engineering Technology

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	500/7595/0	EAL	39	330	N/A

K3 – City & Guilds Level 2 Certificate in Engineering

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	600/0880/5	City & Guilds	35	300	N/A

K4 – EAL Level 2 Certificate in Metals Industries Processes

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	500/7998/0	EAL	18	110	N/A

K5– City & Guilds Level 2 Certificate in Manufacturing Practices

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	601/3036/2	City & Guilds	13	56	N/A

K6 – EAL Level 2 Certificate in Engineering Technologies

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K6a	601/5670/3	EAL	25	230	N/A

K7 – EAL Level 2 Diploma in Engineering Technologies

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K7a	601/5669/7	EAL	39	330	N/A

K8– Pearson BTEC L2 Certificate in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K8a	603/6351/4	Pearson	X	210	N/A

K9 – Pearson BTEC L2 Diploma in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K9a	603/4722/3	Pearson	X	360	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K9 provide underpinning knowledge for C1a - C1c

The designated technical certificates underpin the knowledge elements of the competence qualification in this pathway. The knowledge qualifications support key areas of technical knowledge development needed for apprentices in manufacturing industries to carry out their duties in a safe and efficient manner.

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

Delivery methods for knowledge based qualifications may vary, from a conventional college based environment, to delivery through a combination of this and written/web-based/distance learning materials.

After completing the designated knowledge qualification apprentices should be able to:

- understand health and safety requirements
- communicate in a manufacturing environment
- work effectively in a manufacturing environment.

Applicants wishing to undertake a Level 3 underpinning knowledge qualification should already have achieved a Technical Certificate at Level 2 **or** have GCSEs at a minimum of grade C (new equivalent grade 4) in Maths and Science **or** have a Welsh Baccalaureate.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement <u>above</u> the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement <u>above</u> the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework?   **YES** ☐   **NO** ☒

Progression routes into and from this pathway

Progression routes into this pathway

Entrants to this pathway are likely to primarily be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Diploma in Engineering, Pre-Apprenticeship programme, a Welsh Baccalaureate, Welsh Baccalaureate (with Principal Learning) or completing a Pathways to Apprenticeships programme or extended work experience. More specifically they may:

- have previous employment or work experience in the sector or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- have GCSE's in English, Maths and a Science (grade D to E or higherhigher/new equivalent grade 2 or higher) or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship programme) or
- be keen and motivated to work in the engineering/manufacturing industry or
- be practically minded and want to work with their hands or
- be willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace or
- have completed a Pre-Apprenticeship programme in Engineering or other related area or
- have a Welsh Baccalaureate or
- have completed the Essential Skills Qualifications (ESQ) or
- have an interest in problem solving and organising activities or
- have completed tests in basic numeracy, literacy and communications skills and have spatial awareness.

Other entrants may have experience from working in the sector in a manufacturing context, and are now seeking to become qualified by undertaking an apprenticeship programme.

Particular interest would be shown to those applicants who have had previous work experience or employment in the sector in a manufacturing context, and are now seeking to become qualified by undertaking an apprenticeship programme.

Progression routes from this pathway

It is likely that a significant number of Foundation Apprentices will progress on completion of this pathway to the Apprenticeship in Engineering Manufacture at Level 3, as this is the preferred method of acquiring basic manufacturing skills among employers.

More generally, most ex-apprentices will start off by carrying out semi skilled job roles within manufacturing (see job roles described for the pathway). It is likely that a period of consolidation will be required in these roles before progression can take place. Most will aspire

to a combination of internal promotion within the company to team leader or supervisor level, while at the same time this affords the opportunity to undertake further education qualifications or an Apprenticeship to upgrade their competence and knowledge to fully skilled status. The Apprenticeship in Engineering Manufacture at Level 3 offers a choice of 14 occupational sub-sectors such as aerospace, automotive, marine, electrical / electronics etc. This gives wide ranging opportunity.

The general nature of the Performing Manufacturing Operations Level 2 NVQ can also allow for apprentices to move between and across manufacturing sectors.

To further assist apprentices plan their careers we recommend they visit the following websites:

https://www.gov.uk/apprenticeships-gu ide

https://nationalcareersservice.direct.gov.uk/advice/pla nning/jobfamily/Pages/manufactureandengineering.aspx

UCAS points for this pathway:

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework?   **YES**   ☐   **NO**   ☒

Delivery and assessment

Employee Rights and Responsibilities (ERR) is no longer compulsory, but Semta recommends that all apprentices (especially the 16 years -18 years group) receive it as part of their induction.

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

Method 1 - Qualifications

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

Qualification details:
Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment 501/1793/2
Credit value: 4 credits
Training hours: 40

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

This qualification expires on 30/04/2018 and will no longer be available to new starts from 01/05/2018

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

Qualification details:
City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work 600/2819/1

Credit value: 2 credits
Training hours: 15

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

1c. BIIAB have produced a stand-alone qualification that covers all 9 outcomes of ERR requirements.

Qualification details:
BIIAB Level 2 Award in Employment Rights and Responsibilities 601/4607/2
Credit value: 2 credits
Guided learning hours: 16

Please note: Although it may be possible to complete ERR in a minimum of 16 training hours, Semta recommend a minimum of 40 training hours are taken to complete the ERR requirements.

These qualifications will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being. Apprentices achieving the qualifications will have demonstrated that they have the underpinning knowledge relevant for the engineering/manufacturing environment which satisfies the Specification for Apprenticeship Standards for Wales.

Method 2 - Workbook

Semta has produced an Apprentice ERR workbook that is available from:
customercare@eal.org.uk

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

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

Level 2, Pathway 3: Business Improvement Techniques

Description of this pathway

Business Improvement-Techniques Level 2

The minimum pathway duration time for completion for apprentices age 16 to 18 is 12 months.

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 81 credits

Competence - minimum on-the-job training hours = 249 training hours

Off-the-job training includes a minimum of 168 additional training hours for Essential Skills and mentoring.

Pathway with minimum total learning hours = 473 training hours
- Competence = minimum 249 hours/ minimum 56 credits
- Knowledge = minimum 56 hours (based on the smallest technical certificate training hours)
- Knowledge = 13 minimum credits (based on the smallest technical certificate credit)
- Essential Skills (notional value 60 hours x 2) = 120 hours /12 credits
- Mentoring 48 weeks x 1 hour/week = 48 hours

Year 1 = 473 Hours Year 2 Nil

Minimum credit value - 81 credits

Minimum off-the-job training hours = 224 training hours

Knowledge - City & Guilds Level 2 Certificate in Manufacturing Practices (56 training hours) plus 168 additional training hours for Essential Skills and mentoring.

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

There are no additional requirements other than the general entry conditions.

Job title(s)	Job role(s)
Materials Handler	Ensuring part machined or assembled products are delivered at the right time and place for further machining or assembly operations. Delivery accuracy is key as well as taking waste out of material movements
B-IT Administration Operative	Office based administration role involving continuous improvement of manufacturing processes leading to higher quality, reduced cost and reduced lead times (delivery)
B-IT Quality Control Operative	Monitoring quality in the manufacturing process, generating statistical and graphic data to measure and ensure continuous quality improvement
B-IT Shopfloor Operative	Analyses assembly techniques to optimise the process, improving quality, cost and delivery

Qualifications

Competence qualifications available to this pathway

C1 – Level 2 NVQ Diploma in Business-Improvement Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	500/6590/7	EAL	56	249	N/A
C1b	500/7473/8	City & Guilds	56	249	N/A
C1c	600/1821/5	NCFE	56	249	N/A
C1d	601/3200/0	Highfield Qualifications	56	249	N/A
C1e	601/6634/4	BIIAB	56	249	N/A

Knowledge qualifications available to this pathway

K1 – EAL Level 2 Certificate in Business Improvement Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	501/1495/5	EAL	18	102	N/A

K2 – City & Guilds Level 2 Certificate In Improving Business Performance

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/3741/6	City & Guilds	16	79	N/A

K3 – EAL Level 2 Certificate In Applying Business-Improvement Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K3a	601/1686/9	EAL	13	70	N/A

K4 – NCFE Level 2 Certificate in Lean Organisation Management Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	601/2530/5	NCFE	15	90	N/A

K5– Highfield Level 2 Certificate in Lean Organisation Management Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K5a	601/3199/8	Highfield Qualifications	15	90	N/A

K6– Highfield Level 2 Certificate In Business Improvement Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K6a	601/3198/6	Highfield Qualifications	18	102	N/A

K7 – City & Guilds Level 2 Certificate in Manufacturing Practices

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K7a	601/3036/2	City & Guilds	13	56	N/A

K8 – BIIAB Level 2 Certificate In Lean Organisation Management Techniques

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K8a	601/6602/2	BIIAB	15	90	N/A

K9 – Pearson BTEC L2 Certificate in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K9a	603/6351/4	Pearson	X	210	N/A

K10 – Pearson BTEC L2 Diploma in Engineering Operations

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K10a	603/4722/3	Pearson	X	360	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

K1 - K10 provide underpinning knowledge for C1a - C1e

Both the Certificate in Business Improvement Techniques and the Certificate in Lean Organisation Management directly underpin the competence qualification in this pathway. These knowledge qualifications support key areas of technical knowledge development needed for apprentices in carrying out process or quality improvement activities safely and efficiently.

Employers have agreed that their apprentices should have access to a number of different technical knowledge qualifications that specify varying degrees of theoretical concepts required in the manufacturing sector to carry out process or quality improvement activities safely and efficiently.

Delivery methods for knowledge based qualifications may vary, from a conventional college based environment, to delivery through a combination of this and written/web-based/distance

learning materials.

After completing the designated knowledge qualification apprentices should be able to:

- understand health and safety requirements
- work effectively in a team
- contribute to continuous improvement techniques
- apply workplace organisation techniques.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement <u>above</u> the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement <u>above</u> the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required: Enter alternative grade/level requirements and reasons here.

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework?   **YES** ☐   **NO** ☒

Progression routes into and from this pathway

Progression routes into this pathway

It is likely that there will be a mix of entrants into this pathway. Although some will be school leavers who have completed their GCSE studies and in some cases relevant vocational activity such as a Diploma in Manufacturing or other related activity, Pre-Apprenticeship programme or extended work experience - it is highly likely that older apprentices in the 18 to 24 age category and adults post 25 years will also use this pathway, who have worked in a process driven context and are now considering a Foundation Apprenticeship. Particular interest would be shown to those applicants who have had previous work experience or employment in the sector.

This pathway would particularly suitable for those people who are good at problem solving and enjoy organising activities.

Progression routes from this pathway

The purpose of this pathway is to enable BIT trained employees to make a contribution to the overall efficiency of thier manufacturing or engineering business. The NVQ is about how to continuously improve the processes and procedures involved in carrying out work. It is likely that Foundation Apprentices will progress on completion of this pathway to work in various aspects of the business to identify and eliminate waste, create flow and improve quality, leading to greater efficiency and increased profitability.

More generally, most ex-apprentices aspire to a combination of internal promotion within their company to team leader or supervisor level, while at the same time taking Further Education qualifications to augment their knowledge.

Some apprentices will go on to complete the Operations and Quality Improvement Apprenticeship Framework which has been produced in partnership with major employers and their supply chains to develop a pool of talent across the UK to support businesses to become more productive and remain competitive often in global markets. The Framework components set out the skills, knowledge and understanding employees will require in order to support businesses to identify and then deliver continuous and sustainable quality, cost, delivery improvements for existing or new products, processes and/or services. Typical job roles could include Business Improvement Co-ordinators, Lean Manufacturing Facilitators, Production Team Leaders and Six Sigma Quality and Reliability Co-ordinators.

To further assist apprentices plan their careers we recommend they visit the following websites:

https://www.gov.uk/apprenticeships-guide
https://nationalcareersservice.direct.gov.uk/advice/pla
nning/jobfamily/Pages/manufactureandengineering.aspx

UCAS points for this pathway:

Framework Developer to complete with relevant info

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework?   **YES**   ☐   **NO**   ☒

Delivery and assessment

Employee Rights and Responsibilities (ERR) is no longer compulsory, but Semta recommends that all apprentices (especially the 16 years -18 years group) receive it as part of their induction.

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

Method 1 - Qualifications

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

Qualification details:
Pearson BTEC Level 2 Award in WorkSkills for Effective Learning and Employment 501/1793/2

Credit value: 4 credits
Training hours: 40

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

This qualification expires on 30/04/2018 and will no longer be available to new starts from 01/05/2018

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

Qualification details:
City & Guilds Level 2 Subsidiary Award in Employment and Personal Learning at Work 600/2819/1

Credit value: 2 credits

Training hours: 15

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

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

Qualification details:
BIIAB Level 2 Award In Employment Rights and Responsibilities 601/4607/2

Credit value: 2
Training hours: 16

Please note: Although it may be possible to complete ERR in a minimum of 16 training hours, Semta recommend a minimum of 40 training hours are taken to complete the ERR requirements.

These qualifications will enable apprentices to both know and understand the principles associated with the nine national outcomes such as the world of work and how they are constrained by various legal and organisational procedures for their own well-being.
Apprentices achieving the qualifications will have demonstrated that they have the underpinning knowledge relevant for the engineering/manufacturing environment which satisfies the Specification for Apprenticeship Standards for Wales.

Method 2 - Workbook

Semta has produced an Apprentice ERR workbook that is available from:
customercare@eal.org.uk

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

own well-being.

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

To claim final certification of the apprenticeship, one of the preceding forms of ERR evidence will be required, together with the ACW Universal Apprentice Certificate Claim form which is available from the Federation for Industry Sector Skills and Standards (Fisss) website: acwcerts.co.uk/

How equality and diversity will be met

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

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

Semta wishes to make a Gender Equality Commitment. Semta has signed the United Kingdom Resource Centre (UKRC) CEO's charter in a bid to step up female recruitment in its key sectors and programmes. Due to impending skills gaps it is estimated that 187,000 people will be required to be recruited and trained between 2010-2016 within Semta's sectors of aerospace, automotive, bioscience, composites, electrical, electronics, maintenance, marine, mathematics, metals and engineered metal products, renewables and science.

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

The UKRC believes that only a concerted effort by the SET industry will break down the gender barriers that exist in traditionally male-dominated environments and we want to be part of a new consensus which will create an inclusive working environment for women. The manufacturing industries in which this framework operates are traditionally dominated by a white, male workforce. However, faced with an ageing workforce and the probability of skill shortages we

must look to attract new entrants from a much more diverse recruitment pool.

This means that all young people and adults considering engineering and manufacturing as a career are welcome.

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

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

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

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

Download the guidance on the Equality Act here:
www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/

On and off the job training

Summary of on- and off-the-job training

For the Foundation Apprenticeship, the hours outlined in each section may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired some or all of the appropriate competence or knowledge, this prior learning needs to be recognised and documented using the relevant Recognition of Prior Learning (RPL) procedures.

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

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

There is choice within the Performing Engineering Operations pathway to undertake either a level 2 or level 3 technical certificate, depending on the aptitude of the apprentice. The Training Hours and credit value of each combination is given in the pathway description.

Note
The Improving Operational Performance framework primarily addresses the training needs of apprentices involved in engineering manufacturing and/or process/quality improvements. In many cases this means those who work on production lines manufacturing products such as cars and electronic equipment. Having discussed the requirement for the Essential Skills ICT/Digital Literacy Skills qualification with employers, it is their collective view that ICT/Digital Literacy Skills would not be required.

For an apprentice who has already achieved the relevant qualification, they must have been certificated within 5 years from the date of application for the Foundation Apprenticeship Certificate.

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

On and off-the job training hours should be delivered through a variety of learning methods,

individual and group teaching; team-working; e-learning; distance learning; coaching; mentoring; feedback and assessment.

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

Evidence requirements for claiming an Apprenticeship Certificate

FISSS (The Federation of Industry Sector Skills & Standards), who were formerly known as The Alliance of Sector Skills Councils, have recently been appointed as the certificating authority for Welsh Apprenticeships. FISSS have developed a new online system called ACW (Apprenticeship Certification Wales) for Welsh Apprenticeship certification which will superseded the paper based system from 2nd September 2013 onwards. This means that all Apprenticeship completion certificates must be claimed via the new ACW online system from this date onwards

If you are a Training Provider claiming an Apprenticeship completion certificate on behalf of an apprentice then you will need to register on ACW for a user name and password before you are able to register apprentices and claim certification.

If you are an apprentice claiming an Apprenticeship completion certificate for yourself then you will need to go to the ACW for an application form.

Off-the-job training

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

The amount of off-the-job training hours required to complete this Foundation Apprenticeship varies according to each pathway and level of technical certificate selected, however all include a minimum of 168 additional training hours for Essential Skills (Communication and Application of Number) and mentoring.

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

How this requirement will be met

Off-the-job training needs to:

- achieve clear and specific outcomes which contribute directly to the successful achievement of the framework and this may include accredited and non-accredited elements of the framework
- be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager
- allow the apprentice access as, and when required to tutors, teachers, mentor(s) or manager
- be delivered through one or more of the following methods: individual and group tutoring, e-learning, distance learning, coaching, mentoring, feedback and assessment, collaborative/networked learning with peers or directed study.

Providers will not be required to record individual on and off-the-job training hours. However for certification purposes, the provider will be required to declare that the apprentice has completed the on and off-the-job training hours requirement as set out in this Apprenticeship framework. Training hours delivered under an apprenticeship agreement may vary depending on the previous

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

Previous attainment

Where an apprentice enters an apprenticeship agreement having previously attained parts or all of the relevant qualifications, this prior learning needs to be recognised using the process of Recognition of Prior Learning (RPL) where appropriate.

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

Previous experience

Where an apprentice enters an apprenticeship agreement with previous work-related experience, this prior learning needs to be recognised. To count towards apprenticeship certification, previous experience must be recorded using the appropriate Awarding Organisation's 'Recognition of Prior Learning' procedures and the hours recorded may then count towards the off-the-job hours required to complete the apprenticeship.

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

The knowledge qualification, Essential Skills and Employee Rights and Responsibilities (if required) will be formally delivered by the training provider/college staff in accordance with the awarding organisation's delivery and assessment guidance. It is recommended that a mentor is appointed for each apprentice to review their progress on a regular basis. It is estimated that a mentor will have up to two hours per week contact time with each Foundation Apprentice. This activity will take place off-the-job but is inclusive within the off-the-job hours quoted in the previous section.

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

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

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

All three key elements will be delivered by a combination of group-based delivery and self-study. In addition there will be a company induction, and it is recommended that a mentor should be

appointed for each apprentice to review their progress on a regular weekly basis. All of these activities will take place off-the-job.

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

Inclusion of Technical Certificates in the Apprenticeship Framework pathway

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

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

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

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

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

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

Evidence of off-the-job hours

Off-the-job training must 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 assessor and employer. The range of evidence requirements are as follows:

- Copy of Awarding Organisation certificates for Communication & Application of Number

(Essential Skills Wales) or Key skills at the same level as Essential Skills Wales or Essential Skills Qualifications (ESQ)*
- Copy of the Awarding Organisation certificate for the ERR qualification or completed countersigned ERR workbook (if required)
- Copy of the Awarding Organisation certificate for the knowledge qualification

*Note:
Apprentices registered on a SASW Apprenticeship on or after 1st January 2016 must complete the required mandatory new Essential Skills Qualifications (ESQ) at Level 1: Essential Communication Skills and Essential Application of Number Skills Essential - although the industry has stated that Essential Digital Literacy Skills is not required for these job roles.

Apprentices who have enrolled prior to 31st December 2015 can continue to work towards either Key Skills / Essential Skills Wales (AON, Comms, and ICT / Digital Literacy) as required by the framework, which will be accepted within SASW.

For apprentices registered on or after 14th October 2016, recognised proxies for the new ESQ qualifications are accepted - these are listed in the front of this framework document. This includes the Welsh Baccalaureate Qualification (WBQ) with ESQ and GCSE components. Candidates undertaking the new WBQ will not be required to provide individual certificates as evidence.

Apprenticeship starts before the 14th October 2016 must continue to meet the 2013 SASW requirements for Essential Skills. Essential Skills Wales qualifications achieved in the context of the Welsh Baccalaureate Qualification (WBQ) can be accepted as long as the specific certification of the title(s) and level(s) of those ESW/ESQ qualifications is provided. The WBQ certificate itself does not provide this specific evidence.

On-the-job training

The minimum on-the-job training hours for each pathway are summarised in the pathway descriptions

How this requirement will be met

In all three competence qualification pathways detailed above the apprentice will receive on-the-job training as required whilst working towards the achievement of the competence based qualification (NVQ Diploma). Foundation apprentices will generate a work-based portfolio to record the evidence that they have achieved the appropriate competences. This will be overseen by a personal mentor who will monitor progress and offer guidance. The Foundation apprentice will then be formally assessed by a qualified Awarding Organisation assessor who will record the apprentice's progress towards completion of the competence qualification.

Assessment of the units in the competency qualification should be carried out in line with the 'Common Requirements for National Vocational Qualifications (NVQ)' which can be downloaded from Semta's website.

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

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

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

or

- apprentices generating portfolio evidence based on jobs undertaken will need to get this and agreed by the assessor as a contribution to demonstrating competence in the workplace.

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

On-the-job training hours should:

- achieve clear and specific outcomes which contribute directly to the successful achievement of the framework and this may include accredited and non-accredited elements of the framework
- be planned, reviewed and evaluated jointly between the apprentice and a tutor, teacher, mentor or manager
- allow access as and when required by the apprentice either to a tutor, teacher, mentor or manager
- be delivered during contracted working hours.

Examples of on-the-job training hours in an engineering manufacturing context might be:

- environmental awareness
- employability skills
- team working and communications
- task specific workplace instructions or team briefings
- taught sessions by the workplace line manager/instructor
- induction where activities are covered within normal work duties
- coaching of apprentice.

These hours may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired

the appropriate competencies or knowledge, this prior learning needs to be recognised and documented using the relevant RPL procedures (as off-the-job above).

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

Wider key skills assessment and recognition

While Wider Key Skills are not a **mandatory** part of the framework, training providers are encouraged to provide apprentices the opportunity to achieve them.

For this framework, there are natural opportunities for Wider Key Skills to be embedded within the mandatory units of the following qualifications:

Enter Qualification Names

Improving own learning and performance

No longer required

Working with others

No longer required

Problem solving

No longer required

apprenticeship
FRAMEWORK

For more information visit-
www.acwcerts.co.uk/framework_library