apprenticeship FRAMEWORK

Metal Processing and Allied Operations (Wales)

IMPORTANT NOTIFICATION FOR ALL APPRENTICESHIP STARTS FROM 14 OCTOBER 2016

Modifications to SASW came into effect on 14 October 2016. These changes relate to the **Essential Skills** and **Employer Rights and Responsibilities** requirements of a framework and they **ONLY** apply to **new Apprenticeship starts on, or after, 14th October**. Apprenticeship starts before this date must continue to meet the 2013 SASW requirements for Essential Skills and Employer Rights and Responsibilities.

For more details of the changes and how they will affect new apprenticeship starts, please read the following preface page to the framework document. NB: Please check the "Revising a Framework" section for information on any additional changes that may have been made to this framework.

Latest framework version?

For any previous versions of this framework: <u>www.acwcerts.co.uk/framework library</u>

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Metal Processing and Allied Operations (Wales)

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Framework information

Information on the Issuing Authority for this framework:

SEMTA

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

Issue number: 2	This framework includes:
Framework ID: FR03659	Level 2 ⊠ Level 3 ⊠ Level 4-7 □
Date this framework is to be reviewed by: DD/MM/YYYY	This framework is for use in: Wales

Short description

The framework for Metal Processing and Allied Operations at Levels 2 and 3 has been designed to provide the skills, knowledge and competence requirements to work in the manufacture of metals at an appropriate level within the metal processing sectors in Wales.

Contact information

Proposer of this framework

Semta has worked closely with its Metals Sector Skills Group (SSG) 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 apprenticeship frameworks.

Key to providing appropriate skills training is to ensure that new entrants to these industries receive state of the art competence and knowledge training that meets both current and future needs. Metal Processing Apprenticeships at Levels 2 & 3 will ensure that 16 to 25 year olds and post 25 year olds are given the appropriate skills necessary to contribute to this important industry.

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Revising a framework

Why this framework is being revised

This framework is being revised to include:

- both Level 2 and Level 3 requirements in one combined framework
- one additional knowledge qualification as requested by an Awarding Organisation and employers
- the removal of one expired knowledge qualification
- changes to the Essential Skills Wales (ESW) qualification requirements of the framework which only apply to new Apprenticeship starts on, or after, 1st September 2015.

Summary of changes made to this framework

All pathways - Transferable Skills (Wales) section

• Information about evidence requirements for the new ESW qualifications throughout the framework.

LEVEL 2

Pathway 1 - Metal Processing

- Inclusion of all the competence and knowledge qualifications listed in the previous framework FR01969
- One knowledge qualification has been removed

LEVEL 3

Pathway 1 - Metal Processing

• One new knowledge qualification has been added

Qualifications removed

LEVEL 2 Pathway 1 - Metal Processing

• Pearson BTEC Level 2 Diploma in Engineering (QCF) 500/7576/7

Qualifications added

LEVEL 3 Pathway 1 - Metal Processing

• K5 - EAL Level 3 Diploma In Engineering Technologies (QCF) 601/5801/3 (new)

Qualifications that have been extended

None

Purpose of this framework

Summary of the purpose of the framework

Sector background

The basic metals sector in Wales employs 9,900 people across 80 establishments. The largest subsector in terms of employment is the manufacture of basic iron and steel and offerro-alloys (77% of total employment).

Focusing on technical roles only, it is estimated that 7,700 engineers, scientists and technologists work across the basic metals sector in Wales.

Micro-sized establishments (less than 10 employees) account for 44% of total establishments but only 1% of employment within the basic metals sectors in Wales. Large establishments (250 plus employees) make up less than 13% of establishments but account for around 79% of total employment.

Employment trends (2008 to 2012)

The basic metals sector in Wales has experienced a period of major restructuring between 2008 to 2012, with a net loss of 1,900 jobs (-16%), compared with a decrease in employment of 3% across all sectors in Wales.

By subsector, the largest reductions in employment occurred in the manufacture of basic, precious and other non-ferrous metals (-1,300 jobs) and the manufacture of other products of first processing of steel (-400 jobs).

Current Employment

In total there are 5,200 people working in operator, craft and technician roles within the basic metals sector in Wales. This consists of 2,200 operators, 2,800 craftspersons and 200 technicians employed in technical roles.

Key occupations in the wider industry

- Operators/semi skilled: casting operators, metals production operatives & metal forming operatives
- Craftspersons: metalworking production and maintenance fitters, electricians and electrical fitters and tool makers and fitters
- Technicians: draughtspersons, engineering technicians, quality assurance technicians

Demographic profile of those in operator, craft and technician occupations

Full-time: 99% Female: 4% Age 16-24: 4% Age 60+: 4% Have a disability: 16% Ethnicity (non-white): <1% Proportion of total sectoral employment: 53%

Vacancies

In 2012, 36% of basic metals establishments in Wales had vacancies; none had operator vacancies, 14% had craft vacancies and 14% had technician vacancies.

Overall, 14% of basic metals employers in Wales had hard-to-fill vacancies; 7% had hard-to-fill vacancies for craftspersons and 7% had hard-to-fill vacancies for technicians.

Current skills and qualifications

Approximately 62% of those working in operator, craft and technician occupations within the basic metals sector have qualifications at NVQ Level 2 or above. However, some 2,000 people within in these occupational groups either have qualifications below NVQ Level 2 or have no qualifications.

Skill needs and gaps

In 2012, 14% of basic metals establishments in Wales had employees with skills gaps. Overall, 12% of basic metals establishments in Wales had employees with technical skills gaps.

The main impact of skills gaps were increased workload for other staff, increased operating costs, difficulties meeting quality standards and difficulties introducing new working practices. The main action taken by basic metals employers to overcome skills gaps was to increase training activity/spend or increase/expand trainee programmes.

Future skills demand

When taking into account retirements, it is expected there will be a recruitment requirement

for around 1,050 engineers across operator (450 recruits), craft (450 recruits) and technician (150 recruits) occupations into the basic metals sector in Wales over the period 2013-2017.

Sources of data

- Business Register Employment Survey (BRES) 2011
- Inter Departmental Business Register (IDBR) 2011
- Employer Skills Survey (ESS) 2011
- Labour Force Survey (LFS) 2010
- Semta Employment Forecasts 2012

These frameworks for Foundation Apprenticeship and Apprenticeship in Metal Processing and Allied Operations will help address the current skills requirements and also the future needs for operator, semi-skilled, craft persons and technicians as stated above. It will also address the skills gaps and shortages identified and ensure a steady flow of new people into the metals industry.

Aims and objectives of this framework (Wales)

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

Further aims and objectives:

- Develop more technicians through Apprenticeships
- Incorporate the latest developments in metal processing National Occupational Standards (NOS) at Levels 2 and 3
- Provide a metal processing pathway that meets manufacturing employers needs
- Help improve recruitment and retention rates within the industry by offering appropriate career progression
- Improve productivity rates and profitability (increased GVA per person)
- Address current skills gaps and shortages
- Address future skills demands
- To better address equality and diversity within the sector as defined above in the framework summary above
- To tackle the age profile within the sub-sector
- To help reduce the carbon footprint by maximising efficiency and eliminating waste
- Increase the level of general literacy and numeracy through transferable skills
- Provide a pathway into higher level Metal Processing and Allied Operations careers and

training

- To provide a pathway to foundation degree and undergraduate programmes for those who choose this route
- Develop apprentices employability and skills making them more attractive to all employers whichever career they choose.

... Metal Processing and Allied Operations (Wales)

Entry conditions for this framework

Employers wish to attract applicants who have an interest to work in the metals processing industry.

The **Foundation Apprenticeship in Metal Processing and Allied Operations** is suitable for applicants who have five GCSEs grade D to E 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 in the metal processing industry welcome applicants from a diverse range of backgrounds and anticipate that they will have a wide range of experience, achievements and qualifications.

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 GCSE's in English, Maths, and Science (grade D to E or higher) or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship programme) or
- are keen and motivated to work in a metal processing environment 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 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
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications or
- have completed tests in basic numeracy, literacy and communications skills and have spatial awareness.

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

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

appropriate.

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.

It is understood that where applicants have accredited prior learning that apprentices must be offered training which helps them to deliver new skills and learning at a higher level.

Essential Skills Wales

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

Apprentices must complete Essential Skills Wales qualifications in Communication, Application of Number and IT at Level 1..

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

Note:

Please be aware from 1st September 2015 that the New Essential Skills Wales (ESW) suite of qualifications will be available, however the evidence requirements in this issue of the framework is based upon the previous suite described above.

Also as from 1st September 2015 there will new GCSE's with ESW content that maybe considered as proxies in the future, this will be confirmed at a later date by the Welsh Government.

The Welsh Baccalaureate Qualification (WBQ) is also changing later this year and the

certification will include the ESW and GCSE's components. Candidates undertaking the new WBQ will not be required to provide individual certificates as evidence.

Knowledge qualifications

If applicants already have one of the knowledge qualifications or individual QCF 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. Further more the hours that were spent gaining the qualification may be counted towards the total hours for the apprenticeship.

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

Competence qualifications

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 are embedded within the learning undertaken in the mandatory units of the competence qualification and therefore do not form a specific part of the entry requirements for this framework.

Prior experience in the sector

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

The **Apprenticeship in Metal Processing and Allied Operations** is suitable for applicants who have five GCSEs grade C or above including Maths, English, and a Science. This is not a hard and fast rule but may vary according to the job role (craft or technician) and the suitability of

individual applicants.

Employers in the metal processing industry welcome applicants from a diverse range of backgrounds and anticipate that they will have a wide range of experience, achievements and qualifications.

Employers would be interested in applicants who:

- · have previous work experience or employment in the sector or
- have completed the Foundation Apprenticeship in Metal Processing and Allied Operations or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- are keen and motivated to work in a metal processing environment or
- are willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace or
- have completed a Young Apprenticeship in Engineering or other related area or
- have a Welsh Baccalaureate or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship) programme or
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications 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 activity such tests in basic numeracy, literacy, communication skills and spatial awareness. There may also be an interview to ensure potential apprentices have selected the right occupational sector to meet their needs and expectations and those of their employer.

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

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.

It is understood that where applicants have accredited prior learning that apprentices must be offered training which helps them to deliver new skills and learning at a higher level.

Essential Skills Wales

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

Apprentices must complete Essential Skills Wales qualifications in Communication, Application of Number and IT at Level 2.

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

Note:

Please be aware from 1st September 2015 that the New Essential Skills Wales (ESW) suite of qualifications will be available, however the evidence requirements in this issue of the framework is based upon the previous suite described above.

Also as from 1st September 2015 there will new GCSE's with ESW content that maybe considered as proxies in the future, this will be confirmed at a later date by the Welsh Government.

The Welsh Baccalaureate Qualification (WBQ) is also changing later this year and the certification will include the ESW and GCSE's components. Candidates undertaking the new WBQ will not be required to provide individual certificates as evidence.

Knowledge qualifications

If applicants already have one of the knowledge qualifications or individual QCF units at Level 3 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. Further more the hours that were spent gaining the qualification may be counted towards the total hours for the apprenticeship.

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

Competence qualifications

If applicants already have one of the Foundation (Level 3) 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. Alternatively they may have individual QCF units at Level 2, such as PEO which can be APL'd into the extended Diploma providing they have achieved these within five years of starting their 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 are embedded within the learning undertaken in the mandatory units of the competence qualification and therefore do not form a specific part of the entry requirements for this framework.

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 Metal Processing and Allied Operations

Pathways for the framework at level 2:

Pathway 1:

Metal Processing

Level 2, Pathway 1: Metal Processing

Description of this pathway

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

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 117 credits

Pathway with minimum total learning hours = 781 training hours

- Competence = 290 minimum hours/ minimum 69 credits
- Knowledge = 110 minimum hours (smallest technical certificate) / 18 minimum credits
- Essential Skills Wales (notional value 60 hours x 3) = 180 hours /18 credits
- Wider Key Skills = 120 hours/ 2 x 6 = 12 credits
- Mentoring 66 weeks x 1 hour/week = 66 hours
- ERR = 15 minimum hours

Year 1 = 521 hours Year 2 = 260 hours

Minimum credit value - 117 credits

Minimum off-the-job training hours = 491 training hours

Knowledge - EAL Level 2 Certificate in Metals Industries Processes (QCF) (110 training hours) plus 381 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Minimum on-the-job training hours = 290 training hours and is evidenced by completion of the Level 2 NVQ Diploma in Metal Processing and Allied Operations (QCF)

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)
Casting Operator (semi- finished metal products)	Casting of semi-finished ferrous and non ferrous alloy feedstock such as slabs, blooms, or billets
Metals Production Operative	Transfer materials to their correct location within a metals processing environment including manual lifting and handling, use of mechanical lifting equipment such as low lifters, mechanical or hydraulic lifting and powered moving equipment such as fork lift trucks
Foundry Processing Operative	Operation of ferrous and non-ferrous production processes such as metal heating, mould preparation, metal pouring, breaking away sand mould and removing castings and cleaning
Forging Operative	Assisting the Forge Master in forging, shaping and heat treatment of billet stock to achieve the appropriate shape and properties prior to machining and further mechanical operations
Metal Forming Operative	Preparing plant equipment for either hot or cold metal forming, such as rolling, drawing, sizing, shaping, forging, or extrusion
Metals Process Inspection and Testing Operative	Gathering and preparing samples of metals materials and products for inspection and testing to ensure they comply with quality control requirements

Qualifications

Competence qualifications available to this pathway

C1 – Level 2 NVQ Diploma in Metal Processing and Allied Operations (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
C1a	600/8084/X	EAL	69	290	N/A

Knowledge qualifications available to this pathway

No. Ref no. Awarding organisation Credit Guided value learning p value learning p hours value	UCAS points				
	value				
K1a 500/7998/0 EAL 18 110	N/A				
K2 – EAL Level 2 Diploma in Engineering Technology (QCF)					
No. Ref no. Awarding organisation Credit Guided I value learning F hours y	UCAS points value				
K2a 500/7595/0 EAL 39 330	N/A				
K13 – EAL Level 2 Certificate in Engineering and Technology (QCF)					
No. Ref no. Awarding organisation Credit Guided I value learning p hours y	UCAS points value				
K3a 501/1231/4 EAL 25 230	N/A				

K4 –	City & Guilds Level	2 Certificate in Engineering (QCF)			
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K4a	600/0880/5	City & Guilds	35	300	N/A

Combined qualifications available to this pathway

Relationship between competence and knowledge qualifications

The competence qualification, C1, has been developed to support job roles in metal processing activities

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

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 metal processing 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.

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 <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

Does this framework require Communication achievement <u>above</u> the minimum SASW requirement? YES \Box NO \boxtimes

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 <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

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

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	\boxtimes	NO		

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

Does this framework require Digital Literacy (ICT) achievement <u>above</u> the minimum SASW requirement? YES \Box NO \boxtimes

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

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, Young Apprenticeship or extended work experience.

More specifically they may:

- have previous work experience or employment in the sector or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- have GCSE's in English, Maths, and Science (grade D to E or higher) or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship programme) or
- are keen and motivated to work in a metal processing environment 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 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
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications 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 metal processing or 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 Metal Processing and Allied Operations at Level 3. More generally, most ex-apprentices aspire to a combination of internal promotion within the company to team leader or supervisor level, while at the same time taking Further Education qualifications to augment their knowledge.

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

http://www.apprenticeships.org.uk/types-of-apprenticeshi ps/engineering-and-manufacturing-technologies.aspx

nationalcareersservice.direct.gov.uk/advice/planning/job family/Pages/manufactureandengineering.aspx ... Metal Processing and Allied Operations (Wales) level 2 Pathway 1

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	\boxtimes	NO		
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Delivery and assessment

Framework Developer to complete with relevant info



Title for this framework at level 3

Apprenticeship in Metal Processing and Allied Operations

Pathways for the framework at level 3:

Pathway 1:

Metal Processing

Level 3, Pathway 1: Metal Processing

Description of this pathway

Pathway duration approximately 42 months depending on the qualification and unit options selected

Total minimum credit value (made up of the total on- and off-the-job training for all the components) = 216 credits

(For adult apprentices 25 years and over only completing Level 3 NVQ Diploma in Metal Processing and Allied Operations (QCF) - total minimum pathway credit value = 186 credits)

Level 3 NVQ Extended Diploma

Pathway with minimum total learning hours = 1382 training hours

- Competence = minimum 433 hours/ minimum 132 credits
- Knowledge = minimum 480 hours (smallest technical certificate) / minimum 54 credits
- Essential Skills Wales (notional value 60 hours x 3) = 180 hours /18 credits
- Wider Key Skills = 120 hours / 2 x 6 = 12 credits
- Mentoring 154 weeks x 1 hour/week = 154 hours
- ERR = 15 minimum hours

Year 1 = 395 hours Year 2 = 395 hours Year 3 = 395 hours Year 4 = 197 hours

Minimum off-the-job training hours = 949 training hours

Knowledge - City & Guilds Level 3 Diploma in Engineering (QCF) (480 training hours) plus 469 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Minimum on-the-job training hours = 433 training hours and is evidenced by completion of the

Level 3 NVQ Extended Diploma in Metal Processing and Allied Operations (QCF)

Minimum credit value = 216 credits

Level 3 NVQ Diploma - Only for adults 25 years and over

Note: This NVQ Diploma qualification is for adult apprentices 25 years and over only who must be able to demonstrate a practical ability comparable to 3 relevant practical PEO units at Level 2, along with relevant health and safety training.

Pathway with minimum total learning hours = 1259 training hours

- Competence = minimum 310 hours/ minimum 105 credits
- Knowledge = minimum 480 hours (smallest technical certificate) / minimum 54 credits
- Essential Skills Wales (notional value 60 hours x 3) = 180 hours /18 credits
- Wider Key Skills = 120 hours / 2 x 6 = 12 credits
- Mentoring 154 weeks x 1 hour/week = 154 hours
- ERR = 15 minimum hours

Year 1 = 360 hours Year 2 = 360 hours Year 3 = 360 hours Year 4 = 179 hours

Minimum off-the-job training hours = 949 training hours

Knowledge - City & Guilds Level 3 Diploma in Engineering (QCF) (480 training hours) plus 469 additional training hours for Essential Skills Wales, Wider Key Skills, ERR and Mentoring

Minimum on-the-job training hours = 310 training hours and is evidenced by completion of the Level 3 NVQ Diploma in Metal Processing and Allied Operations (QCF)

Minimum credit value = 189 credits

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

There are no additional requirements other than the general entry conditions

Job title(s)	Job role(s)
Casting Technician (semi finished metal products)	Casting of semi-finished ferrous and non ferrous alloy feedstock such as slabs, blooms or billets.
Casting Technician (formed metal products)	Casting of finished ferrous or non ferrous metal alloys to produce metal formed products.
Materials Scheduler	Working in both office and on the shop floor to ensure materials are in the correct place at the right time and of the right quality to meet the requirements of either metals production or manufacturing processes.
Metal Products Technician	Planning metal forming operations by applying physical pressure to change the shape of either hot or cold metal materials by rolling, drawing, sizing, shaping, forging or extrusion
Process Technician (metal wire and wire products)	Planning and controlling metal drawing operations by applying physical pressure to change the shape of metal feedstock into wire and wire products by die cold drawing.
Forgemaster Technician	Located in the forging shop, involving the forging, shaping, and heat treatment of billet stock to achieve the appropriate shape and properties prior to machining and further mechanical operations.
Heat Treatment Technician	Develop, prepare and supervise heat treatment procedures such as hardening, carburising, tempering, annealing and normalising for ferrous and non ferrous alloys in order to assist with metal processing activities.
Team Leader (metals processing)	Organising the efficient working of production teams by an informed approach to the techniques and procedures required.

Qualifications

C2a

600/8095/4

Competence qualifications available to this pathway

C1 – I	C1 – Level 3 NVQ Extended Diploma in Metal Processing and Allied Operations (QCF)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value	
C1a	600/8238/0	EAL	132	433	N/A	
C2 – Level 3 NVQ Diploma in Metal Processing and Allied Operations (QCF)						
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value	

105

310

N/A

EAL

Knowledge qualifications available to this pathway

K1 – I	EAL Level 3 Diplon	na in En	gineering Technology (C	QCF)		
No.	Ref no.		Awarding organisation	Credit value	Guided learning hours	UCAS points value
K1a	501/1130/9	EAL		105	310	N/A

K2 – (City & Guilds Level	3 Diploma in Engineering (QCF)			
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
K2a	600/0882/9	City & Guilds	54	480	N/A

K3 - Edexcel BTEC Level 3 Diploma in Manufacturing Engineering (QCF)No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK3a500/7319/9Edexcel120720N/AK4aEdexcel 3 Diploma in Casting Technology (QCF)UCAS valueGuided learning hoursUCAS points valueNo.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK4a600/1025/3EAL78600N/AK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)UCAS valueGuided learning hoursUCAS points valueK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)Credit valueGuided learning hoursUCAS points valueK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)Credit valueGuided learning hoursUCAS points valueK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)Credit valueGuided learning hoursUCAS points valueK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)Credit valueGuided learning hoursUCAS points valueK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)Credit valueGuided learning hoursUCAS points valueK5 - 601/5801/3EAL68525N/A						
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K4 - EAL Level 3 Diploma in Casting Technology (QCF) No. Ref no. Awarding organisation Credit value Guided learning hours UCAS points value K4a 600/1025/3 EAL 78 600 N/A K5a Ref no. Awarding organisation Credit value Guided learning hours UCAS points value K4a 600/1025/3 EAL 78 600 N/A K5a Guided no. Awarding organisation Credit value Guided learning hours UCAS points value K5a 601/5801/3 EAL Awarding organisation Credit value Guided learning hours UCAS points value K5a 601/5801/3 EAL Awarding organisation Credit value Guided learning hours UCAS points value	K3a	500/7319/9	Edexcel	120	720	N/A
K4 - EAL Level 3 Diploma in Casting Technology (QCF)No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK4a600/1025/3EAL78600N/AK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)VICAS realizationUCAS Learning hoursUCAS points valueNo.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK5a601/5801/3EAL68525N/A						
No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK4a600/1025/3EAL78600N/AK5 - EAL Level 3 Diploma In Engineering Technologies (QCF)VVVNo.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS pointsK5a601/5801/3EAL68525N/A	K4 – E	AL Level 3 Diplo	ma in Casting Technology (QCF)			
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K5 - EAL Level 3 Diploma In Engineering Technologies (QCF)No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK5a601/5801/3EAL68525N/A	K4a	600/1025/3	EAL	78	600	N/A
K5 – EAL Level 3 Diploma In Engineering Technologies (QCF)No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK5a601/5801/3EAL68525N/A						
No.Ref no.Awarding organisationCredit valueGuided learning hoursUCAS points valueK5a601/5801/3EAL68525N/A	K5 – E	AL Level 3 Diplo	ma In Engineering Technologies (QCF)		
K5a 601/5801/3 EAL 68 525 N/A	No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
	K5a	601/5801/3	EAL	68	525	N/A

Combined qualifications available to this pathway

N/A

Relationship between competence and knowledge qualifications

The competence qualifications C1 and C2 have been developed to support various job roles in metal processing activities.

*Level 3 NVQ Diploma in Metal Processing and Allied Operations (QCF) - is for use by 25yrs+ only (see below)

K1 - K5 provide general theoretical underpinning engineering knowledge for C1 and C2.

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 metal processing 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.

Apprentices following the Level 3 framework must complete the Level 3 NVQ Extended Diploma in Metal Processing and Allied Operations (QCF). However if the relevant QCF PEO units have already been achieved and certificated in a previous programme, such as applicants who have completed the Improving Operational Performance Level 2 framework (Performing Engineering Operations Level 2 pathway), then they will be able to accredit these against the requirements of the Extended Level 3 Diploma. In such circumstances this would result in the minimum GLH requirements for the relevant pathway being reduced by a minimum of 123 hours and a minimum value of 27 credits (depending on the PEO units completed).

***Note:** The Level 3 NVQ Diploma in Metal Processing and Allied Operations (QCF) may be used by adult apprentices 25 years old and over only, who must:

a) have received appropriate health and safety training relevant to work area/environment that they will be working and

b) have worked in an engineering or manufacturing environment and have skills knowledge and understanding broadly comparable to relevant practical NVQ Level 2 units detailed in Performing Engineering Operations, Performing Manufacturing Operations or other skill specific NVQ Level 2 in engineering or manufacturing.

The above must be evidenced by a signed letter from the Apprentices Company and sent prior to the commencement of training to: Frameworks Manager, Unit 2 The Orient Suite, Greycaine Road, Watford, Herts, WD24 7GP or <u>frameworks@semta.org.uk</u>

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 <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

Does this framework require Communication achievement <u>above</u> the minimum SASW requirement? YES $\ \boxtimes \ NO \ \square$

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 <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

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

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	\boxtimes	NO		

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of <u>SASW</u> on the <u>gov.wales</u> website. Additional guidance materials can be found on the <u>Knowledge Base</u> section of the <u>ACW</u> website.

Does this framework require Digital Literacy (ICT) achievement <u>above</u> the minimum SASW requirement? YES \boxtimes NO \square

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Progression routes into and from this pathway

Progression routes into this pathway

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

More specifically they may:

- have previous work experience or employment in the sector or
- have completed the Foundation Apprenticeship in Metal Processing and Allied Operations or
- have completed a 14 to 19 Diploma in Engineering or Manufacturing or
- are keen and motivated to work in a metal processing environment or
- are willing to undertake a course of training both on-the-job and off-the job and apply this learning in the workplace or
- have completed a Young Apprenticeship in Engineering or other related area or
- have a Welsh Baccalaureate or
- have completed an Enhanced Engineering Programme (formerly Pathways to Apprenticeship) programme or
- have completed the Essential Skills Wales (ESW) or Wider Key Skills qualifications 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

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

Progression routes from this pathway

While significant numbers of Apprentices will seek internal progression to team leader or supervisory roles or follow a route into a senior technical role within their companies, some will want to progress to a Higher Apprenticeship in Engineering at Level 4; others may decide to opt for a Foundation degree or HNC/HND. More generally, most ex-apprentices aspire to a combination of internal promotion while at the same time undertaking company sponsored qualifications as specified above.

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

http://www.apprenticeships.org.uk/types-of-apprenticeshi ps/engineering-and-manufacturing-technologies.aspx

nationalcareersservice.direct.gov.uk/advice/planning/job family/Pages/manufactureandengineering.aspx

UCAS points for this pathway:

(no information)

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 \square NO \square

Delivery and assessment

Framework Developer to complete with relevant info

The remaining sections apply to all levels and pathways within this framework. 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 Metals and Engineered Metal Products, Aerospace, Automotive, Composites, Electrical, Electronics, Maintenance, Marine, Mathematics, Rail, 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 aging workforce and the probability of skill shortages we must look to attract new entrants from a much more diverse recruitment pool. This means that all young people and adults considering engineering and manufacturing as a career are welcome.

Providers of apprenticeship training including employers must be able to demonstrate there are no overt or covert discriminatory practices in the selection and employment of apprentices this

... Metal Processing and Allied Operations (Wales)

can be demonstrated by the implementing of a Single Equality Scheme (SES). The new Equality Duty (part of the Single Equality Bill) introduced to the public sector requires all public sector bodies to produce a SES combining their current race, disability and gender schemes and should be recognised by all providers of apprenticeship training. The implementation of a SES demonstrates the organisation's commitment to equality and diversity by identifying new and improved ways of working to ensure the organisation is more efficient and effective in meeting the diverse needs of both staff and customers. All those who recruit apprentices, be they colleges, training providers or employers, must comply with the Equality act of 2010 and apply the Equality and Diversity legislation taking full account of the following:

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

Providers of apprenticeship training and employers must also actively monitor equality of opportunity and diversity procedures and take positive action where necessary to ensure equal access and treatment for all. Apprenticeships must be seen as a vital route to encourage and facilitate long term change in the equality and diversity of the engineering industry, 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 both the Metal Processing and Allied Operations frameworks at Level 2 and Level 3, the hours outlined in each section may vary depending on previous experience and attainment of the apprentice. Where a learner enters an apprenticeship agreement having previously attained or acquired some or all of the appropriate competence or knowledge, this prior learning needs to be recognised and documented using the relevant QCF credit transfer, QCF exemption or Recognition of Prior Learning (RPL) procedures.

The amount of 'on-the-job' training required to complete the apprenticeship under the apprenticeship agreement may then be reduced accordingly, provided the total numbers of 'on-the-job' hours for this framework can be verified for apprenticeship certification. Those apprentices who commence training under a new apprenticeship agreement with a new employer may bring a range of prior experience with them. When an apprentice can claim 5% or more hours towards the 'on-the-job' framework total through prior learning acquired from previous full-time education, employment or other vocational programme, then the 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 QCF qualifications, or relevant units recognised as Quality Assured Lifelong Learning (QALL) through a CQFW recognised body, or follow Essential Skills at a level higher than that specified in the framework, including one or more Wider Key Skills or other competency-based qualifications/units relevant to the workplace.

Note

This Metal Processing and Allied Operations framework primarily addresses the training needs of apprentices involved in a metal processing and manufacturing environment. Having discussed the requirement for Essential Skills Wales, it was felt that all three qualifications would 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 or Apprenticeship Certificate.

Any off-the-job training undertaken before the apprentice started may count towards the off-thejob 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 apprentice'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 and maximum 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.

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 teaching, e-learning,

distance learning, coaching; mentoring, feedback and assessment; collaborative/networked learning with peers, guided study and induction

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 either QCF credit transfer for achievements within the QCF, or through recording of exemptions for certificated learning outside of the QCF, for example Principal Learning qualifications.

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

Previous experience

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

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

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

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

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

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

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

Inclusion of Technical Certificates in the apprenticeship framework pathway

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

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 requested that they and apprentices have access to a number of different technical knowledge qualifications that specify varying degrees of theoretical concepts required in metal processing manufacture/engineering activities, so the different sizes (credit value and hours) of the technical knowledge qualifications reflect the varying degree in complexity, breadth and depth of skills, knowledge, understanding and theoretical concepts.

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

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

- the career aspirations of the apprentice

- the skill and knowledge requirements of the employer for the selected occupational area (job role). The employer may have recruited the apprentice based on a workforce planning tool including succession planning

- an assessment of the academic qualifications achieved by the apprentice prior to undertaking the framework to determine if the apprentice will have the ability to achieve one of the more academically demanding technical knowledge qualifications

- the results of any psychometric tests that would ascertain whether the apprentice will be able to achieve one of the more academically demanding technical knowledge qualifications

- the preferred learning style of the apprentice including the various assessment methodologies used by the different Awarding Organisations

- custom and practice within the sector, including any legislation requirements

- local and/or national Trade Union agreements

Evidence of off-the-job training

The range of evidence requirements are as follows:

- Copy of Awarding Organisation certificates for Communication, Application of Number and IT (Essential Skills Wales) or Key skills at the same level as Essential Skills Wales

- Copy of Awarding Organisation certificates for the IOLP and WWO (Wider Key Skills Wales).

- Copy of the Awarding Organisation certificate for the ERR qualification or completed countersigned ERR workbook.

- Copy of the Awarding Organisation certificate for the knowledge qualification.

Note: Please be aware from 1st September 2015 that the New Essential Skills Wales (ESW) suite of qualifications will be available, however the evidence requirements in this issue of the framework is based upon the previous suite described above.

Also as from 1st September 2015 there will new GCSE's with ESW content that maybe considered as proxies in the future, this will be confirmed at a later date by the Welsh Government.

The Welsh Baccalaureate Qualification (WBQ) is also changing later this year and the certification will include the ESW and GCSE's components. Candidates undertaking the new WBQ will not be required to provide individual certificates as evidence.

On-the-job training

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

How this requirement will be met

In all the competence qualification pathways the apprentice will receive on-the-job training as required whilst working towards the achievement of the competence based qualification (NVQ Diploma). 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 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.

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

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

On-the-job training hours should:

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

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

- technical or business 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 apprentices.

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

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

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

 apprentices generating a portfolio to record evidence of unit completion in accordance with the Awarding 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 signed as having been completed by a responsible work colleague. This is then examined and agreed by the assessor as a contribution to demonstrating competence in the workplace.

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

For the Apprenticeship in Metal Processing and Allied Operations, apprentices must complete the Level 3 NVQ Extended Diploma in Metal Processing and Allied Operations. However if the relevant QCF PEO units have already been achieved and certificated in a previous programme, such as applicants who have completed the Improving Operational Performance Level 2 framework (Performing Engineering Operations Level 2 pathway), then they will be able to accredit these against the requirements of the Level 3 Extended Diploma. In such circumstances this would result in the minimum GLH requirements for the relevant pathway being reduced by a minimum of 123 hours and a minimum value of 27 credits (depending on the PEO units completed). The Level 3 NVQ Extended Diplomas include a number of Performing Engineering Operations (PEO) Level 2 NVQ units. It is strongly recommended that the PEO units are delivered and assessed off the job in a sheltered and realistic work environment. This will ensure that Apprentices have attained a minimum and safe level of skills, knowledge and understanding in the occupational area prior to entering the workplace, thus minimising the risk of injury to themselves and other employees and the potential of increased costs incurred by the employer such as damaged tools/equipment, scrapped materials and components.

In order to ensure the safe transition to the workplace prior to being exposed to the hazards of the industrial environment, Apprentices must receive sufficient Health and Safety training covering both general and occupational specific requirements whilst undertaking the selected Level 2 NVQ PEO units off the job and in a sheltered and realistic work environment.

As a minimum the training programme should include the skills, knowledge and understanding requirements set out in the Performing Engineering Operations Level 2 (QCF).

Whilst undertaking the skill specific Level 2 QCF NVQ units as part of the Level 3 NVQ Extended Diploma, Training Providers may wish to consider registering Apprentices on the three Mandatory Units from the Level 2 NVQ Diploma in Performing Engineering Operations (QCF):

Unit 1: Working Safely in an Engineering Environment. QCF Unit Ref; L/600/5781 Unit 2: Carrying out Engineering Activities Efficiently and Effectively. QCF Unit Ref; D/600/5784 Unit 3: Using and Communicating Technical Information. QCF Unit Ref; M/600/5790

This has the advantage that if for any reason the apprentice is not able to complete the Level 3 NVQ Extended Diploma they would have achieved sufficient units to claim the Level 2 NVQ Diploma in Performing Engineering Operations (QCF).

... Metal Processing and Allied Operations (Wales)

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

Improving own learning and performance is an essential component of both the Metal Processing and Allied Operations Foundation Apprenticeship at Level 2 and the Metal Processing and Allied Operations Apprenticeship at level 3: the requirement for the Metal Processing and Allied Operations Foundation Apprenticeship is at level 1 the requirement for the Metal Processing and Allied Operations Apprenticeship is at level 2

Working with others

Working with others is an essential component of both the Metal Processing and Allied Operations Foundation Apprenticeship at Level 2 and the Metal Processing and Allied Operations Apprenticeship at level 3: the requirement for the Metal Processing and Allied Operations Foundation Apprenticeship is at level 1 the requirement for the Metal Processing and Allied Operations Apprenticeship is at level 2

Problem solving

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

apprenticeship FRAMEWORK

For more information visitwww.acwcerts.co.uk/framework library