

# apprenticeship FRAMEWORK

## Plumbing and Heating (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?

Please use this link to see if this is the latest issued version of this framework:

[afo.sscalliance.org/frameworkslibrary/index.cfm?id=FR03702](http://afo.sscalliance.org/frameworkslibrary/index.cfm?id=FR03702)

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# CHANGES TO REQUIREMENTS FOR APPRENTICESHIP STARTS FROM 14TH 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 2016. Apprenticeship starts before this date must continue to meet the 2013 SASW requirements for Essential Skills and Employer Rights and Responsibilities.

## Alternatives for Essential Skill qualifications

**Foundation apprenticeships (Level 2):** Where Essential Skills qualifications are specified in a foundation apprenticeship framework (Level 2), the apprenticeship framework must specify as a Welsh certificate requirement, the acceptance of one of the following recognised proxy qualifications.

For Communication:

- a. GCSE or iGCSE qualification in English language or literature to at least grade G (Level 1 equivalent); or
- b. O Level qualification in English language or literature to at least grade E; or
- c. A/AS Level qualification in English language or literature to at least grade E; or
- d. SCQF Level 4 – Communication Core Skills (Oral communication and written communication); or
- e. SQA National 4 English; or
- f. Functional Skills or Key Skills literacy qualifications in English provided the proxy qualification(s) attained are at Level 1 or above.

For Application of Number:

- a. GCSE or iGCSE qualification in Mathematics to at least grade G (Level 1 equivalent); or
- b. O Level qualification in Mathematics to at least grade E; or
- c. A/AS Level qualification in Mathematics to at least grade E; or
- d. SCQF Level 4 – Numeracy Core Skill (Graphical Information and using number); or
- e. SQA National 4 Mathematics ; or
- f. Functional Skills or Key Skills numeracy qualifications in Mathematics provided the proxy qualification(s) attained are at Level 1 or above.

**Apprenticeships (Level 3):** Where Essential Skills qualifications are specified in an apprenticeship framework (Level 3), the apprenticeship framework must specify as a Welsh certificate requirement, the acceptance of one of the following recognised proxy qualifications.

For Communication:

- a. GCSE or iGCSE qualification in English language or literature to at least grade C (Level 2 equivalent); or
- b. O Level Qualification in English language or literature to at least grade C; or
- c. A/AS Level qualification in English or literature to at least grade E; or
- d. SCQF Level 5 – Communication Core Skills (Oral communication and written communication); or
- e. SQA National 5 English; or
- f. Functional Skills or Key Skills literacy qualifications in English provided the proxy qualification(s) attained is at Level 2 or above.

For Application of Number:

- a. GCSE or iGCSE qualification in Mathematics to at least grade C (Level 2 equivalent); or
- b. O Level Qualification in Mathematics to at least grade C; or
- c. A/AS Level qualification in Mathematics to at least grade E; or
- d. SCQF Level 5 – Numeracy Core Skill (Graphical information and using number); or
- e. SQA National 5 Mathematics; or
- f. Functional Skills or Key Skills numeracy qualifications in Mathematics provided the proxy qualification(s) attained are at Level 2 or above.

**Higher Apprenticeships (Levels 4-7):** Essential Skills requirements are as for an apprenticeship frameworks at Level 3.

# CHANGES TO REQUIREMENTS FOR APPRENTICESHIP STARTS FROM 14TH OCTOBER 2016

## Employer Rights and Responsibilities (ERR)

The final modification to SASW is to Employer Rights and Responsibilities (ERR) which is no longer compulsory in frameworks. Please refer to the Employer Rights and Responsibilities section within the framework document to confirm specific requirements.

## Additional Information

It should be noted that SASW has also been modified to reflect existing improvements to Essential Skills Wales Qualifications. These improvements to ESW qualifications were signalled by the revised names:

- Essential Skills Wales Communication is now Essential Communication Skills (still 6 credits in size)
- Essential Skills Wales Application of Number Skills is now Essential Application of Number Skills (still 6 credits in size)
- Essential Skills Wales Information Communication Technology Skills is now Essential Digital Literacy Skills (still 6 credits in size)

Whilst there have been some amendments to the content of ESW qualifications, the most significant change has been to the assessment methodology for these qualifications.

From 1 January 2016, all new starts have had to follow the revised Essential Skill qualifications.

The updated version of SASW, and guidance documents, can be accessed here:

<http://gov.wales/topics/educationandskills/skillsandtraining/apprenticeships/providers/?lang=en&dgd>

Over the coming months, the Essential Skills section within AFO will be amended to reflect the SASW modifications and all current frameworks will be updated and reissued to incorporate these changes. In the meantime, if you are in any doubt as to the requirements of any framework then please contact the relevant Issuing Authority.

# Plumbing and Heating (Wales)

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# Framework summary

## Plumbing and Heating

### Foundation Apprenticeship in Plumbing

#### Pathways for this framework at level 2 include:

##### Pathway 1: Plumbing

**Competence qualifications available to this pathway:**

N/A

**Knowledge qualifications available to this pathway:**

N/A

**Combined qualifications available to this pathway:**

B1 - Level 2 NVQ Diploma in Plumbing and Heating

**This pathway also contains information on:**

- Employee rights and responsibilities
- Essential skills

## Plumbing and Heating

### Apprenticeship (Level 3) in Domestic Plumbing and Heating

#### Pathways for this framework at level 3 include:

##### Pathway 1: Domestic Plumbing & Heating (Oil-Fired. Solid Fuel or Environmental options)

**Competence qualifications available to this pathway:**

N/A

**Knowledge qualifications available to this pathway:**

N/A

**Combined qualifications available to this pathway:**

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating

**This pathway also contains information on:**

- Employee rights and responsibilities
- Essential skills

##### Pathway 2: Domestic Plumbing & Heating (Gas Fired Warm Air Appliances)

**Competence qualifications available to this pathway:**

N/A

**Knowledge qualifications available to this pathway:**

N/A

**Combined qualifications available to this pathway:**

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Warm Air Appliances)

**This pathway also contains information on:**

- Employee rights and responsibilities
- Essential skills

**Pathway 3: Domestic Plumbing & Heating (Gas Fired Water and Central Heating Appliances)**

**Competence qualifications available to this pathway:**

N/A

**Knowledge qualifications available to this pathway:**

N/A

**Combined qualifications available to this pathway:**

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Water and Central Heating Appliances)

**This pathway also contains information on:**

- Employee rights and responsibilities
- Essential skills

# Framework information

## Information on the Publishing Authority for this framework:

### SummitSkills

The Apprenticeship sector for occupations in electrical and electronic servicing, plumbing, heating and building services (summarised as electrotechnical; plumbing, heating and ventilating; refrigeration and air conditioning).

Issue number: 4	<b>This framework includes:</b>
Framework ID: FR03702	Level 2 Level 3
Date this framework is to be reviewed by: 01/04/2020	<b>This framework is for use in: Wales</b>

## Short description

Apprenticeships for occupations in the Plumbing and Heating Industry are designed to meet the industry's competence requirements. At Foundation Level you will be involved in the installation or service and maintenance of plumbing systems eg baths, pipework, drains, radiators and heating systems then at Apprenticeship (Level 3) you may work with gas/solid fuel boilers and Environmental Technologies eg Solar Thermal; Ground/Air Source Heat Pumps; Water Harvesting etc

This Apprenticeship framework document contains two occupation pathways at different levels:

### ***Foundation (Level 2):***

- Plumbing

### Job roles

- Plumber

### ***Apprenticeship (Level 3):***

- Domestic Plumbing and Heating

Job role

- Advanced Plumber



# Contact information

## Proposer of this framework

SummitSkills the Standards Setting Organisation for the Plumbing and Heating industry regularly engages with employers, government departments, manufacturers, trade associations and training providers to ensure that this framework document is fit-for-purpose at the time it is issued.

Additional engagement activities include direct consultations by email and telephone with stakeholders.

## Developer of this framework

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# Revising a framework

## Contact details

Who is making this revision: Tony Beecher  
Your organisation: SummitSkills  
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## Why this framework is being revised

As this framework is over 4 years old a review has taken place of any changes needed to this document and this includes new contact details for the developers and issuing authority to make sure the framework meets or exceeds the requirements of apprenticeships across the UK.

## Summary of changes made to this framework

Contact details have been amended as those listed have left SummitSkills, changes made to ERR evidence requirements, additional progression opportunities and additional qualifications have been added with details below

## Qualifications removed

N/A

## Qualifications added

LCL Level 3 Award in Energy Efficiency for Gas fired and Oil fired domestic heating and Hot water systems (QCF) - 601/3942/0

## Qualifications that have been extended

N/A

# Purpose of this framework

## Summary of the purpose of the framework

These occupation frameworks are designed to provide new entrants and those seeking progression in their career with the opportunity to develop competencies that are needed to carry out job roles and responsibilities associated with the installation, maintenance, commissioning and servicing of domestic plumbing and heating systems. Including relevant:

- Sustainable Building Best Practices
- Environmental technologies
- Technological requirements and changes
- Statutory and non-statutory regulations and requirements

It will also contribute towards meeting the skills priorities for Wales, highlighted in the following extract from 'The National Strategic Skills Audit for Wales; June 2011'

<http://www.ukces.org.uk/publications/nssa-wales-vol-1>

***"The Audit highlights the growing importance of technicians, the importance of replacement demands with regard to intermediate jobs in more traditional areas (skilled trades, for example); and the persistence of skills shortages at this level, perhaps seeing only temporary moderation due to the recession. Moreover, skilled trades are expected to be a key part of the skills mix within emerging sectors with high productivity levels, including elements of advanced manufacturing."***

Your employers' business could include the installation, service, maintenance and repair of a variety of plumbing systems and equipment, including:

- Showers; Baths; Sinks
- Drainage Pipes, Plastic and Copper Water Pipes and Guttering
- Heating Systems fueled by Gas; Solar Thermal; Heat Pumps; Oil and Coal

These products could be installed in domestic, industrial and commercial premises where not only are the technical skills needed but also the skills of customer service and communication.

Successful completion of the Foundation Level framework equips an apprentice with the ability to select and use relevant knowledge, ideas, skills and procedures to complete well defined tasks and address straightforward problems. They include taking responsibility for completing tasks and procedures, and exercising autonomy and judgement subject to overall direction or guidance. Successful candidates then have the option to further develop their skills, knowledge and competence by progressing onto the Apprenticeship (Level 3) framework.

Successful completion of the Apprenticeship (Level 3) framework equips an apprentice with the

ability to identify and use relevant understanding, methods and skills to complete tasks and address problems that, while well defined, have a measure of complexity. They include taking responsibility for initiating and completing tasks and procedures as well as exercising autonomy and judgement within parameters. They also reflect awareness of different perspectives or approaches within an area of study or work.

The following job roles will be covered in the Foundation (Level 2) and Apprenticeship (Level 3) frameworks respectively:

- Plumber
- Advanced Plumber

### **Aims and objectives of this framework (Wales)**

The aim of these occupation frameworks is to ensure that the Foundation (Level 2) and Apprenticeship (Level 3) frameworks deliver:

- The skills and knowledge required by the industry to achieve competence
- Job-related skills that will be used in the working environment
- New entrants to replace those retiring or leaving the sector
- Transferable Skills such as problem solving, communication, team working, literacy, numeracy and ICT skills which are a priority for the sector
- Career progression

Employers have endorsed this programme as it delivers qualified competent employees, and improves productivity and retention.

Where Recognition of Prior Learning (RPL) is applied in relation to competence, knowledge or Essential Skills, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and developing new skills.

Further career guidance can be found at: <http://www.summitskills.org.uk/building-services-apprenticeships-careers>

# Entry conditions for this framework

Although there are generally no nationally laid-down minimum entry or previous experience requirements to undertake the Foundation (Level 2) and Apprenticeship (Level 3) frameworks in the Domestic Plumbing and Heating Industry, the following selection criteria may be used as guidance.

The programmes are likely to be suitable for individuals who:

- Have an aptitude for technical subjects and/or are practically minded
- Have an interest in technology
- Can demonstrate an ability to solve practical problems
- Have a portfolio of evidence of practical work experience, non-accredited courses, volunteering or have previously worked in the sector

A career in this industry will not only reward an apprentice's potential, but also offer opportunities to enhance their technical capability. The industry needs new entrants of appropriate ability and offers a varied and rewarding career in a challenging working environment.

Other selection criteria may include:

- Ability to communicate effectively with a range of people
- Being numerate and literate as a significant amount of paperwork will be involved
- Good colour vision to recognise colour coded wires and components
- Willingness to learn to drive if you don't already have a driving licence as much of the work will require you to drive to customers premises (Insurance requirements may differ per company)
- Ability to work at heights or in confined spaces
- Willingness to work outside and carry out manual handling tasks as some materials and equipment are heavy
- Willingness to work unsociable hours
- Willingness to undergo a Criminal Records Bureau (CRB)/DBS Disclosure Barring Service check when required
- Willingness to work safely and respectfully in support of safeguarding policies

Examples of formal qualifications that can be used as an indication that an applicant has the potential to progress into and complete either the Foundation (Level 2) or Apprenticeship (Level 3) frameworks can be found in each individual occupation pathway.

No individual should be refused access to an initial assessment on the basis of educational qualifications alone. The ultimate responsibility for selection will rest with the individual employer.

## Level 2

Title for this framework at level 2

# Foundation Apprenticeship in Plumbing

### Pathways for this framework at level 2

Pathway 1: Plumbing

## Level 2, Pathway 1: Plumbing

### Description of this pathway

Plumbing - including water-based systems and products (baths, sinks, showers, water heaters/radiators etc) - 94 credits in total.

- 76 credits for the combined (Knowledge 14 credits & Competence 62 credits) qualification
- 18 credits for Essential Skills Wales - Communication, Application of Number & IT

Where Recognition of Prior Learning (RPL) is applied in relation to competence, knowledge or Essential Skills, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and developing new skills.

In order to demonstrate the industry recognised level of competence reflected by this Foundation framework it is expected the minimum duration for its completion will be **no less than 24 months**.

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

Examples of formal qualifications that can be used as an indication that an applicant has the potential to progress into and complete the Foundation (Level 2) framework in Plumbing are:

- Welsh Baccalaureate Foundation Diploma OR
- Completion of a Welsh Government "Pathway to Apprenticeship" programme in Plumbing OR
- Essential Skills Wales or Key Skills in Communication and Application of Number at Level 2 and ICT at Level 1 OR
- GCSE grade A-D in each of the following:- a communication subject, maths and either a science or technical-based subject OR
- Level 1 GNVQs in relevant vocational/technical subjects OR
- A Level 1 'Access to Building Services Engineering' qualification

Job title(s)	Job role(s)
Plumber	Works under minimal supervision to complete the installation and maintenance of domestic hot water, cold water, sanitation, drainage, rainwater systems, central heating systems and components.



# Qualifications

## Competence qualifications available to this pathway

N/A

## Knowledge qualifications available to this pathway

N/A

## Combined qualifications available to this pathway

B1 - Level 2 NVQ Diploma in Plumbing and Heating					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	501/1752/X	EAL	76	596	N/A
B1b	501/1981/3	City & Guilds	76	596	N/A
B1c	600/5270/3	BPEC	76	596	N/A

## Relationship between competence and knowledge qualifications

This framework requires the completion of one of the combined qualifications B1a, B1b or B1c identified in the combined qualifications section B1 above.

Qualification Title - Level 2 NVQ Diploma in Plumbing and Heating, which has the following units:

### Knowledge Units

- Understand how to communicate with others in building services engineering J/602/2482 **Unit Credit Value 3**
- Understand how to apply environmental protection measures in building services engineering D/602/2486 **Unit Credit Value 4**
- Understand how to apply scientific principles in MES J/602/2496 **Unit Credit Value 7**

**Knowledge Element = 14 credits**

### Competence Units

- Apply safe working practices in building services engineering working environments T/602/2493 **Unit Credit Value 2**
- Install and maintain domestic plumbing and heating systems D/602/2939 **Unit Credit Value 4**
- Understand and carry out site preparation, and pipework fabrication techniques for domestic plumbing and heating systems D/602/2682 **Unit Credit Value 10**
- Understand and apply domestic cold water system installation and maintenance techniques H/602/2697 **Unit Credit Value 8**

- Understand and apply domestic hot water system installation and maintenance techniques F/602/2884 **Unit Credit Value 8**
- Understand and apply domestic central heating system installation and maintenance techniques Y/602/2888 **Unit Credit Value 10**
- Understand and apply domestic rainwater system installation and maintenance techniques F/602/2917 **Unit Credit Value 4**
- Understand and apply domestic above ground drainage system installation and maintenance techniques J/602/2921 **Unit Credit Value 6**
- Understand and carry out safe working practices in building services engineering J/602/2479 **Unit Credit Value 10**

**Competence Element = 62 credits**

**Total Qualification = 76 credits**

For further qualification details refer to: [register.ofqual.gov.uk/Qualification](https://register.ofqual.gov.uk/Qualification) and search by the relevant qualification or unit number.

# Transferable skills (Wales)

## Essential skills (Wales)

	Minimum level	Credit value
Communication	2	6
Application of numbers	2	6
IT	1	6

## Progression routes into and from this pathway

### Progression routes into this pathway:

Applicants may come from a range of routes including:

- Welsh Baccalaureate Foundation Diploma
- Completion of a Welsh Government "Pathway to Apprenticeship" programme in Plumbing
- Work or work experience
- Training and/or experience which could include a portfolio showing what they have done
- Academic qualification(s) such as three GCSEs grades A-D in each of the following:- a communication subject, maths and either a science or technical-based subject
- Achievement of Essential Skills or Wider KeySkills
- Level 1 GNVQs in relevant vocational/technical subjects
- A Level 1 'Access to Building Services Engineering' qualification

No individual should be refused access to an initial assessment on the basis of educational qualifications alone. The ultimate responsibility for selection will rest with the individual employer.

### Progression routes out of this pathway:

On successful completion of the Foundation (Level 2) framework in Plumbing, an apprentice will normally spend time consolidating their roles and practicing their skills for a period of time before progressing onto:

- Learning and assessment programmes that lead to relevant Level 3 qualifications and/or an Apprenticeship (Level 3) framework in Domestic Plumbing and Heating OR
- Progress in their career with further training into such job roles as Technician, Designer Estimator, Project Manager, Site/Workshop Supervisor/Manager, Chartered Engineer, Sales Engineer or Commercial Manager

Also whilst this sector doesn't currently have a 'Licence to Practice' our apprenticeships are recognised as fulfilling the competence requirements of the voluntary card schemes and will enable you to register on a relevant industry recognised Certification Scheme which is evidence that an operative is deemed competent to carry out a particular job role effectively and safely.

Further career guidance can be found at: <http://www.summitskills.org.uk/building-services-apprenticeships-careers>

# Employee rights and responsibilities

The Employee Rights and Responsibilities (ERR) elements identified below will be achieved through an induction programme, in combination with the Level 2 NVQ Diploma in Plumbing and Heating qualification (either EAL (501/1752/X), BPEC (600/5270/3) or City & Guilds (501/1981/3) into which they are integrated and signposted. The ERR elements will be evidenced by the issuing of a qualification achievement certificate plus the declaration consent form when claiming for the apprenticeship certificate.

The delivery and assessment of ERR must be designed so that the apprentice:

1. knows and understands the range of employer and employee statutory rights and responsibilities under Employment Law and that employment rights can be affected by other legislation as well. This should cover the apprentices rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and Health and Safety, together with the responsibilities and duties of employers;
2. knows and understands the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Health and Safety and Equality and Diversity training must be an integral part of the apprentice's learning programme;
3. knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme;
4. understands the role played by their occupation within their organisation and industry;
5. has an informed view of the types of career pathways that are open to them;
6. knows the types of representative bodies and understands their relevance to their industry and organisation, and their main roles and responsibilities;
7. knows where and how to get information and advice on their industry, occupation, training and career;
8. can describe and work within their organisations principles and codes of practice;
9. recognises and can form a view on issues of public concern that affect their organisation and industry

## Level 3

Title for this framework at level 3

# Apprenticeship (Level 3) in Domestic Plumbing and Heating

### Pathways for this framework at level 3

- Pathway 1: Domestic Plumbing & Heating (Oil-Fired. Solid Fuel or Environmental options)
- Pathway 2: Domestic Plumbing & Heating (Gas Fired Warm Air Appliances)
- Pathway 3: Domestic Plumbing & Heating (Gas Fired Water and Central Heating Appliances)

## Level 3, Pathway 1: Domestic Plumbing & Heating (Oil-Fired, Solid Fuel or Environmental options)

### Description of this pathway

Domestic Plumbing & Heating (Oil-Fired, Solid Fuel or Environmental Options) - Installing, maintaining, servicing and commissioning domestic plumbing and heating systems. Total credits for this pathway = 80-99 subject to option chosen.

- Minimum 68 credits for the combined (Knowledge 11 credits & Competence 57 credits) qualification
- 12 credits for Essential Skills Wales Communication and Application of Number

Where Recognition of Prior Learning (RPL) is applied in relation to competence, knowledge or Essential Skills, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and developing new skills.

In order to demonstrate the industry recognised level of competence reflected by this Apprenticeship (Level 3) framework it is expected the minimum duration for its completion will be **no less than 24 months**.

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

The Plumbing and Heating Industry would normally expect entry into this framework to be for those who have already successfully completed a Foundation (Level 2) framework in Plumbing, or for individuals with the experience and knowledge comparable with the requirements of that programme. The structured learning and assessment programme of this framework will enhance the skills and knowledge of the entrant to the benefit of employers and apprentices alike.

Examples of formal qualifications that can be used as an indication that an applicant has the potential to progress into and successfully complete the Apprenticeship (Level 3) framework in Domestic Plumbing and Heating are:



- Successful completion of a Foundation (Level 2) framework in Plumbing
- Welsh Baccalaureate Intermediate Diploma OR
- Completion of a Welsh Government "Pathway to Apprenticeship" programme in Plumbing OR
- GCSE grade A-C in each of the following:- a communication subject, maths and either a science or technical-based subject OR
- Essential Skills Wales or Key Skills in Communication and Application of Number and IT at Level 2 OR
- Level 2 GNVQs in relevant vocational/technical subjects OR
- Level 2 'Access to Building Services Engineering' qualification

<b>Job title(s)</b>	<b>Job role(s)</b>
Advanced Plumber (Oil-Fired, Solid Fuel or Environmental)	Completes and oversees work to install, service, maintenance and commission domestic hot & cold water systems and domestic heating and sanitation systems using Oil-Fired, Solid Fuel or Renewable Energy

# Qualifications

## Competence qualifications available to this pathway

N/A

## Knowledge qualifications available to this pathway

N/A

## Combined qualifications available to this pathway

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	600/1122/1	City & Guilds	68 - 87	549-659	N/A
B1b	600/1252/3	EAL	68 - 87	549-659	N/A
B1c	600/6863/2	BPEC	68 - 87	549-659	N/A

## Relationship between competence and knowledge qualifications

This framework requires the completion of the combined qualifications B1a, B1b or B1c identified in the combined qualifications section B1 above.

Qualification Title - Level 3 NVQ Diploma in Domestic Plumbing and Heating, which has a variety of unit combinations to enable achievement. You must complete a common mandatory group of units worth 56 credits plus one of the three optional groups PG1, PG2 or PG3 (which may also include both mandatory and optional routes)

### ***Common Mandatory group***

#### **Knowledge Unit**

- Understand how to organise resources in building services engineering R/602/2498 ***Unit Credit Value 3***

#### **Knowledge Element = 3 credits**

#### **Competence Units**

- Understand and carry out electrical work on domestic plumbing and heating systems and components T/502/9157 ***Unit Credit Value 12***
- Install, commission, service and maintain domestic plumbing and heating K/502/9298 ***Unit Credit Value 3***
- Understand and apply domestic cold water system installation, commissioning, service and maintenance techniques K/502/8930 ***Unit Credit Value 9***
- Understand and apply domestic hot water system installation, commissioning, service and

maintenance techniques K/502/9155 **Unit Credit Value 9**

- Understand and apply domestic central heating system installation, commissioning, service and maintenance techniques M/502/9156 **Unit Credit Value 12**
- Understand and apply domestic sanitation system installation, commissioning, service and maintenance techniques D/502/9296 **Unit Credit Value 8**

**Competence Element = 53 credits**

**Knowledge + Competence = 56 credits**

### ***Optional Groups***

**GROUP PG1 - Oil Firing Pathway** (Knowledge 22 credits/Competence 63 credits = 85 credits in total. Comprising 56 credits from the common mandatory group, 16 credits from the pathway mandatory group plus 13 credits from the optional unit routes below)

### ***Pathway Mandatory group***

- **Knowledge Units**
- Understand core oil firing safety principles in domestic building services engineering H/502/9557 **Unit Credit Value 12**

**Knowledge Element = 12 credits**

### **Competence Units**

- Apply core oil firing safety in domestic building services engineering L/502/9391 **Unit Credit Value 4**

**Competence Element = 4 credits**

**Plus:**

### ***Optional Units Route 1***

- **Knowledge Units**
- Understand the principles of domestic oil firing pressure jet appliances D/502/9394 **Unit Credit Value 7**

**Knowledge Element = 7 credits**

### **Competence Units**

- Install, test and commission domestic oil firing pressure jet appliances Y/502/9393 **Unit Credit Value 3**
- Service and maintain domestic oil firing pressure jet appliances M/502/9402 **Unit Credit Value 3**

## Competence Element = 6 Credits

Or:

### ***Optional Units Route 2***

#### Knowledge Units

- Understand the principles of domestic oil firing vaporising appliances T/502/9403 **Unit Credit Value 7**

## Knowledge Element = 7 credits

#### Competence Units

- Service and maintain domestic oil firing vaporising appliances F/502/9405 **Unit Credit Value 3**
- Install, test and commission domestic oil firing vaporising appliances A/502/9404 **Unit Credit Value 3**

## Competence Element = 6 Credits

**PG2 - Solid Fuel Pathway** (Knowledge 22 or 25 credits/Competence 63 or 62 credits = 85 or 87 credits in total depending on option taken. Comprising 56 credits from the common mandatory group, 16 credits from the pathway mandatory group plus 13 credits from the optional unit routes 1 or 15 credits from the optional unit 2 below)

### ***Common Mandatory group***

- **Knowledge Units**
- Understand core solid fuel safety principles in domestic building services engineering J/502/9406 **Unit Credit Value 12**

## Knowledge Element = 12 credits

#### Competence Units

- Apply core solid fuel safety in domestic building services engineering L/502/9407 **Unit Credit Value 4**

## Competence Element = 4 credits

***Plus:***

### ***Optional Units Route 1***

#### Knowledge Unit

- Understand the principles of domestic solid mineral fuel burning appliances R/502/9408  
**Unit Credit Value 7**

**Knowledge Element = 7 credits**

### **Competence Units**

- Service and maintain domestic solid mineral fuel burning appliances L/502/9410 **Unit Credit Value 3**
- Install, test and commission domestic solid mineral fuel burning appliances Y/502/9409  
**Unit Credit Value 3**

**Competence Element = 6 credits**

### **Optional Units Route 2**

#### **Knowledge Units**

- Understand the installation and commissioning principles of biomass fuel burning appliances R/502/9411 **Unit Credit Value 7**
- Understand the service and maintenance principles of biomass fuel burning appliances Y/502/9412 **Unit Credit Value 3**

**Knowledge Element = 10 credits**

### **Competence Units**

- Service and maintain domestic biomass fuel burning appliances H/502/9414 **Unit Credit Value 2**
- Install, test and commission domestic biomass fuel burning appliances K/502/9415 **Unit Credit Value 3**

**Competence Element = 5 credits**

**PG3 - Environmental Technologies Pathway** (Knowledge 11 credits/Competence 57 credits = 68 credits in total. Comprising 56 credits from the common mandatory group, 2 credits from the pathway mandatory unit plus 10 credits from one of the optional units below)

### **Pathway Mandatory Knowledge Unit**

- Understand the fundamental principles and requirements of environmental technology systems K/602/3138 **Unit Credit Value 2**

**Plus:**

### **Optional Units Route 1**

#### **Knowledge Units**

- Know the requirements to install, commission and handover solar thermal hot water systems F/602/3100 **Unit Credit Value 4**
- Know the requirements to inspect, service and maintain 'active' solar thermal hot water systems Y/602/3104 **Unit Credit Value 2**

**Knowledge Element = 6 credits**

### **Competence Units**

- Install, commission and handover 'active' solar thermal hot water systems L/602/3102 **Unit Credit Value 2**
- Inspect, service and maintain 'active' solar thermal hot water systems K/602/3107 **Unit Credit Value 2**

**Competence Element = 4 credits**

**Or:**

### **Optional Units Route 2**

#### **Knowledge Units**

- Know the requirements to install, commission and handover heat pump systems - non-refrigerant circuits Y/602/3054 **Unit Credit Value 4**
- Know the requirements to inspect, service and maintain heat pump system installations - non-refrigerant circuits F/602/3078 **Unit Credit Value 2**

**Knowledge Element = 6 credits**

### **Competence Units**

- Install, commission and handover heat pumps - non-refrigerant circuits D/602/3072 **Unit Credit Value 2**
- Inspect, service and maintain heat pump installations - non-refrigerant circuits L/602/3083 **Unit Credit Value 2**

**Competence Element = 4 credits**

**Or:**

### **Optional Units Route 3**

#### **Knowledge Units**

- Know the requirements to inspect, service and maintain rainwater harvesting and greywater reuse systems M/602/3111 **Unit Credit Value 2**
- Know the requirements to install, commission and handover rainwater harvesting and



greywater reuse systems T/602/3109 *Unit Credit Value 4*

**Knowledge Element = 6 credits**

**Competence Units**

- Install, commission and handover rainwater harvesting and greywater reuse systems  
K/602/3110 *Unit Credit Value 2*
- Inspect, service and maintain rainwater harvesting and greywater reuse systems  
A/602/3130 *Unit Credit Value 2*

**Competence Element = 4 credits**

For further qualification details refer to: [register.ofqual.gov.uk/Qualification](https://register.ofqual.gov.uk/Qualification) and search by the relevant qualification or unit number.

# Transferable skills (Wales)

## Essential skills (Wales)

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

## Progression routes into and from this pathway

### Progression routes into this pathway:

Applicants may come from a range of routes including:

- Successful completion of a Foundation (Level 2) framework in Plumbing
- Successful completion of a Welsh Baccalaureate Intermediate Diploma
- Successful Completion of a Welsh Government 'Pathway to Apprenticeship' programme in Plumbing
- Work or work experience
- Training and/or experience which could include a portfolio showing what they have done
- Academic qualification(s) such as three GCSEs grades A-C in each of the following:- a communication subject, maths and either a science or technical-based subject
- Achievement of Essential Skills or Wider KeySkills at Level 2
- Level 2 GNVQs in relevant vocational/technical subjects
- Completion of a Level 2 'Access to Building Services Engineering' qualification

No individual should be refused access to an initial assessment on the basis of educational qualifications alone. The ultimate responsibility for selection will rest with the individual employer.

### Progression routes out of this pathway

On successful completion of the Apprenticeship (Level 3) framework in Domestic Plumbing and Heating, an apprentice will have the skills, knowledge and qualifications to:

- Progress to relevant Level 4/5 qualifications e.g. Building Services Engineering Technology & Project Management or Foundation Degree in Engineering
- Progress onto the Level 6 Apprenticeships related to this field such as in Building Services Engineering Technology & Project Management

- Take a relevant Trade Test to demonstrate competence to work in other UK countries
- Progress in their career with further training into such job roles as Technician, Designer, Estimator, Project Manager, Site/Workshop Supervisor/ Manager, Chartered Engineer, Sales Engineer or Commercial Manager

Also whilst this sector doesn't currently have a 'Licence to Practice' our apprenticeships are recognised as fulfilling the competence requirements of the voluntary card schemes and will enable you to register on a relevant industry recognised Certification Scheme which is evidence that an operative is deemed competent to carry out a particular job role effectively and safely.

Further career guidance can be found at: <http://www.summitskills.org.uk/building-services-apprenticeships-careers>

**UCAS points for this pathway: N/A**

# Employee rights and responsibilities

The normal entry into this programme would be through the previous completion of the Foundation (Level 2) framework in Plumbing into which the ERR elements identified below are integrated and signposted and will be automatically evidenced by the issuing of a qualification achievement certificate. Recognition of Prior Learning (RPL) may therefore be applied if ERR was gained in this way or from another programme.

Alternatively the ERR elements identified below must be achieved through an induction programme, in combination with the Level 3 NVQ Diploma in Domestic Plumbing and Heating qualification (either the City & Guilds 600/1122/1, EAL 600/1252/3 or BPEC 600/6863/2) into which they are integrated and signposted. The ERR elements will be evidenced by the issuing of a qualification achievement certificate plus the declaration consent form when claiming for the apprenticeship certificate.

The delivery and assessment of ERR must be designed so that the apprentice:

1. knows and understands the range of employer and employee statutory rights and responsibilities under Employment Law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and Health & Safety, together with the responsibilities and duties of employers.
2. knows and understands the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Health & Safety and Equality & Diversity training must be an integral part of the apprentice's learning programme;
3. knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme
4. understands the role played by their occupation within their organisation and industry;
5. has an informed view of the types of career pathways that are open to them;
6. knows the types of representative bodies and understands their relevance to their industry and organisation, and their main roles and responsibilities
7. knows where and how to get information and advice on their industry, occupation, training and career;
8. can describe and work within their organisations principles and codes of practice;
9. recognises and can form a view on issues of public concern that affect their organisation and industry

## Level 3, Pathway 2: Domestic Plumbing & Heating (Gas Fired Warm Air Appliances)

### Description of this pathway

Domestic Plumbing & Heating (Gas Fired Warm Air Appliances) - Installing, maintaining, servicing and commissioning Domestic Plumbing and Heating systems with Gas Fired Warm Air appliances. Total credits for this pathway = 147.

- 135 credits for the combined (Knowledge 37 credits & Competence 98 credits) qualification
- 12 credits for Essential Skills Wales Communication and Application of Number

Where Recognition of Prior Learning (RPL) is applied in relation to competence, knowledge or Essential Skills, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and developing new skills.

In order to demonstrate the industry recognised level of competence reflected by this Apprenticeship (Level 3) framework it is expected the minimum duration for its completion will be **no less than 24 months**.

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

The Plumbing and Heating Industry would normally expect entry into this framework to be for those who have already successfully completed a Foundation (Level 2) framework in Plumbing, or for individuals with the experience and knowledge comparable with the requirements of that programme. The structured learning and assessment programme of this framework will enhance the skills and knowledge of the entrant to the benefit of employers and apprentices alike.

Examples of formal qualifications that can be used as an indication that an applicant has the potential to progress into and complete the Apprenticeship (Level 3) framework in Domestic Plumbing and Heating are:

- Successful completion of the Foundation (Level 2) framework in Plumbing
- Welsh Baccalaureate Intermediate Diploma OR
- Completion of a Welsh Government 'Pathway to Apprenticeship' in Plumbing OR
- GCSE grade A-C in each of the following:- a communication subject, maths and either a science or technical-based subject OR
- Essential Skills Wales in Communication, Application of Number & IT at Level 2 OR
- Level 2 GNVQs in relevant vocational/technical subjects OR
- A Level 2 'Access to Building Services Engineering' qualification

<b>Job title(s)</b>	<b>Job role(s)</b>
Advanced Plumber (Gas-Fired Warm Air)	Completes, oversees and organises work to install, service, maintain and commission domestic hot & cold water systems and domestic heating systems that use Gas Fired Warm Air Appliances

# Qualifications

## Competence qualifications available to this pathway

N/A

## Knowledge qualifications available to this pathway

N/A



## Combined qualifications available to this pathway

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Warm Air Appliances)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	600/1124/5	City & Guilds	135	933	N/A
B1b	600/1451/9	EAL	135	933	N/A
B1c	600/6285/X	BPEC	135	933	N/A

## Relationship between competence and knowledge qualifications

This framework requires the completion of either of the combined qualifications B1a, B1b or B1c identified in the combined qualifications section B1 above.

Qualification Title - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas-Fired Warm Air Appliances), which has the following units:

### Knowledge Units

- Understand how to organise resources in building services engineering R/602/2498 **Unit Credit Value 3**
- Specific core installation and maintenance H/502/8487 **Unit Credit Value 21**
- Understand core gas safety principles for natural gas in domestic building services engineering J/502/9390 **Unit Credit Value 13**

### Knowledge Element = 37 Credits

### Competence Units

- Understand and carry out electrical work on domestic plumbing and heating systems and components T/502/9157 **Unit Credit Value 12**
- Install, commission, service and maintain domestic plumbing and heating systems K/502/9298 **Unit Credit Value 3**
- Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations K/502/8376 **Unit Credit Value 3**
- Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in

domestic and small commercial premises T/502/8381 **Unit Credit Value 19**

- Maintain gas warm air central heating systems and appliances T/502/8302 **Unit Credit Value 11**
- Install domestic gas warm air central heating appliances F/502/8299 **Unit Credit Value 12**
- Understand and apply domestic cold water system installation, commissioning, service and maintenance techniques K/502/8930 **Unit Credit Value 9**
- Understand and apply domestic hot water system installation, commissioning, service and maintenance techniques K/502/9155 **Unit Credit Value 9**
- Understand and apply domestic central heating system installation, commissioning, service and maintenance techniques M/502/9156 **Unit Credit Value 12**
- Understand and apply domestic sanitation system installation, commissioning, service and maintenance techniques D/502/9296 **Unit Credit Value 8**

**Competence Element = 98 Credits**

**Total Qualification = 135 Credits**

For further qualification details refer to: [register.ofqual.gov.uk/Qualification](https://register.ofqual.gov.uk/Qualification) and search by the relevant qualification or unit number.

# Transferable skills (Wales)

## Essential skills (Wales)

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

## Progression routes into and from this pathway

### Progression routes into this pathway:

Applicants may come from a range of routes including:

- Successful completion of a Foundation (Level 2) framework in Plumbing
- Successful completion of a Welsh Baccalaureate Intermediate Diploma
- Successful Completion of a Welsh Government 'Pathway to Apprenticeship' in Plumbing
- Work or work experience
- Training and/or experience which could include a portfolio showing what they have done
- Academic qualification(s) such as three GCSEs grades A-C in each of the following:- a communication subject, maths and either a science or technical-based subject
- Achievement of Essential Skills or Wider KeySkills
- Level 2 GNVQs in relevant vocational/technical subjects
- Completion of a Level 2 'Access to Building Services Engineering' qualification

No individual should be refused access to an initial assessment on the basis of educational qualifications alone. The ultimate responsibility for selection will rest with the individual employer.

### Progression routes out of this pathway

On successful completion of the Apprenticeship (Level 3) in Domestic Plumbing and Heating, an apprentice will have the skills, knowledge and qualifications to:

- Progress to relevant Level 4/5 qualifications e.g. Building Services Engineering Technology & Project Management or Foundation Degree in Engineering
- Progress onto the Level 6 Apprenticeships related to this field such as in Building Services Engineering Technology & Project Management
- Take a relevant Trade Test to demonstrate competence to work in other UK countries

- Progress in their career with further training into such job roles as Technician, Designer, Estimator, Project Manager, Site/Workshop Supervisor/ Manager, Chartered Engineer, Sales Engineer or Commercial Manager

Also whilst this sector doesn't currently have a 'Licence to Practice' our apprenticeships are recognised as fulfilling the competence requirements of the voluntary card schemes and will enable you to register on a relevant industry recognised Certification Scheme which is evidence that an operative is deemed competent to carry out a particular job role effectively and safely.

Further career guidance can be found at: <http://www.summitskills.org.uk/building-services-apprenticeships-careers>

**UCAS points for this pathway: N/A**

# Employee rights and responsibilities

The normal entry into this programme would be through the previous completion of the Foundation (Level 2) framework in Plumbing into which the ERR elements identified below are integrated and signposted and will be automatically evidenced by the issuing of a qualification achievement certificate. Recognition of Prior Learning (RPL) may therefore be applied if ERR was gained in this way or from another programme.

Alternatively the ERR elements identified below must be achieved through an induction programme, in combination with the Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Warm Air Appliances) qualifications (either EAL (600/1451/9), BPEC (600/6285/X) or City & Guilds (600/1124/5) into which they are integrated and signposted. The ERR elements will be evidenced by the issuing of a qualification achievement certificate plus the declaration consent form when claiming for the apprenticeship certificate.

The delivery and assessment of ERR must be designed so that the apprentice:

1. knows and understands the range of employer and employee statutory rights and responsibilities under Employment Law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and Health & Safety, together with the responsibilities and duties of employers.
2. knows and understands the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Health & Safety and Equality & Diversity training must be an integral part of the apprentice's learning programme;
3. knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme
4. understands the role played by their occupation within their organisation and industry;
5. has an informed view of the types of career pathways that are open to them;
6. knows the types of representative bodies and understands their relevance to their industry and organisation, and their main roles and responsibilities
7. knows where and how to get information and advice on their industry, occupation, training and career;
8. can describe and work within their organisations principles and codes of practice;
9. recognises and can form a view on issues of public concern that affect their organisation and industry

## Level 3, Pathway 3: Domestic Plumbing & Heating (Gas Fired Water and Central Heating Appliances)

### Description of this pathway

Domestic Plumbing & Heating (Gas Fired Water and Central Heating Appliances) - Installing, maintaining, servicing and commissioning Domestic Plumbing and Heating systems with Gas Fired Water and Central Heating Appliances. Total credits for this pathway = 158.

- 146 credits for either combined (Knowledge 37 credits & Competence 109 credits) qualification
- 12 credits for Essential Skills in Communication and Application of Number

Where Recognition of Prior Learning (RPL) is applied in relation to competence, knowledge or Essential Skills, the Apprenticeship programme must be tailored to allow the Apprentice to undertake new learning, including learning at a higher level and developing new skills.

In order to demonstrate the industry recognised level of competence reflected by this Apprenticeship (Level 3) framework it is expected the minimum duration for its completion will be **no less than 24 months**.

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

The Plumbing and Heating Industry would normally expect entry into this framework to be for those who have already successfully completed a Foundation (Level 2) framework in Plumbing, or for individuals with the experience and knowledge comparable with the requirements of that programme. The structured learning and assessment programme of this framework will enhance the skills and knowledge of the entrant to the benefit of employers and apprentices alike.

Examples of formal qualifications that can be used as an indication that an applicant has the potential to progress into and complete the Apprenticeship (Level 3) framework in Domestic Plumbing and Heating are:

- Successful completion of a Foundation (Level 2) framework in Plumbing
- Welsh Baccalaureate Intermediate Diploma OR
- Completion of a Welsh Government 'Pathway to Apprenticeship' in Plumbing OR
- GCSE grade A-C in each of the following:- a communication subject, maths and either a science or technical-based subject OR
- Essential Skills Wales or Key Skills in Communication and Application of Number and IT at Level 2 OR
- Level 2 GNVQs in relevant vocational/technical subjects OR
- A Level 2 'Access to Building Services Engineering' qualification

<b>Job title(s)</b>	<b>Job role(s)</b>
Advanced Plumber (Gas-Fired Water and Central Heating)	Completes, oversees and organises work to install, service, maintain and commission domestic plumbing and heating systems, components and Gas Fired Water and Central Heating Appliances



# Qualifications

## Competence qualifications available to this pathway

N/A

## Knowledge qualifications available to this pathway

N/A

## Combined qualifications available to this pathway

B1 - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Water and Central Heating Appliances)					
No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	600/1134/8	City & Guilds	146	1034	N/A
B1b	600/1657/7	EAL	146	1034	N/A
B1c	600/6284/8	BPEC	146	1034	N/A

## Relationship between competence and knowledge qualifications

This framework requires the completion of either of the combined qualifications B1a, B1b or B1c identified in the combined qualifications section B1 above.

Qualification Title - Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas-Fired Water and Central Heating Appliances) which has the following units:

### Knowledge Units

- Understand how to organise resources in building services engineering R/602/2498 **Unit Credit Value 3**
- Specific core installation and maintenance H/502/8487 **Unit Credit Value 21**
- Understand core gas safety principles for natural gas in domestic building services engineering J/502/9390 **Unit Credit Value 13**

**Knowledge Element = 37 credits**

### Competence units

- Understand and carry out electrical work on domestic plumbing and heating systems and components T/502/9157 **Unit Credit Value 12**
- Install, commission, service and maintain domestic plumbing and heating systems K/502/9298 **Unit Credit Value 3**
- Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations K/502/8376 **Unit Credit Value 3**
- Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in

- domestic and small commercial premises T/502/8381 **Unit Credit Value 19**
- Maintain gas water heating and wet central heating appliances T/502/8459 **Unit Credit Value 16**
- Install domestic gas water heaters and wet central heating appliances Y/502/8454 **Unit Credit Value 18**
- Understand and apply domestic sanitation system installation, commissioning, service and maintenance techniques D/502/9296 **Unit Credit Value 8**
- Understand and apply domestic cold water system installation, commissioning, service and maintenance techniques K/502/8930 **Unit Credit Value 9**
- Understand and apply domestic hot water system installation, commissioning, service and maintenance techniques K/502/9155 **Unit Credit Value 9**
- Understand and apply domestic central heating system installation, commissioning, service and maintenance techniques M/502/9156 **Unit Credit Value 12**

**Competence Element = 109 credits**

**Total Qualification = 146 credits**

For further qualification details refer to: [register.ofqual.gov.uk/Qualification](https://register.ofqual.gov.uk/Qualification) and search by the relevant qualification or unit number.

# Transferable skills (Wales)

## Essential skills (Wales)

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

## Progression routes into and from this pathway

### Progression routes into this pathway:

Applicants may come from a range of routes including:

- Successful completion of a Foundation (Level 2) framework in Plumbing
- Successful completion of a Welsh Baccalaureate Intermediate Diploma
- Successful completion of a Welsh Government 'Pathway to Apprenticeship' in Plumbing
- Work or work experience
- Training and/or experience which could include a portfolio showing what they have done
- Academic qualification(s) such as three GCSEs grades A-C in each of the following:- a communication subject, maths and either a science or technical-based subject
- Achievement of Essential Skills or Wider KeySkills
- Level 2 GNVQs in relevant vocational/technical subjects
- Completion of a Level 2 'Access to Building Services Engineering' qualification

No individual should be refused access to an initial assessment on the basis of educational qualifications alone. The ultimate responsibility for selection will rest with the individual employer.

### Progression routes out of this pathway:

On successful completion of the Apprenticeship (Level 3) in Domestic Plumbing and Heating, an apprentice will have the skills, knowledge and qualifications to:

- Progress to relevant Level 4/5 qualifications e.g. Building Services Engineering Technology & Project Management or Foundation Degree in Engineering
- Progress onto the Level 6 Apprenticeships related to this field such as in Building Services Engineering Technology & Project Management
- Take a relevant Trade Test to demonstrate competence to work in other UK countries

- Progress in their career with further training into such job roles as Technician, Designer, Estimator, Project Manager, Site/Workshop Supervisor/ Manager, Chartered Engineer, Sales Engineer or Commercial Manager

Also whilst this sector doesn't currently have a 'Licence to Practice' our apprenticeships are recognised as fulfilling the competence requirements of the voluntary card schemes and will enable you to register on a relevant industry recognised Certification Scheme which is evidence that an operative is deemed competent to carry out a particular job role effectively and safely.

Further career guidance can be found at: <http://www.summitskills.org.uk/building-services-apprenticeships-careers>

**UCAS points for this pathway: N/A**

# Employee rights and responsibilities

The normal entry into this programme would be through the previous completion of the Foundation (Level 2) framework in Plumbing into which the Employee Rights and Responsibilities (ERR) elements identified below are integrated and signposted. The ERR elements will be evidenced by the issuing of a qualification achievement certificate. Recognition of Prior Learning (RPL) may therefore be applied if ERR is gained in this way or from another programme.

Alternatively the ERR elements identified below will be achieved through an induction programme, in combination with the Level 3 NVQ Diploma in Domestic Plumbing and Heating (Gas Fired Water and Central Heating Appliances) qualification (City & Guilds 600/1134/8, EAL 600/1657/7 or BPEC 600/6284/8) into which they are integrated and signposted. The ERR elements will be evidenced by the issuing of a qualification achievement certificate plus the declaration consent form when claiming for the apprenticeship certificate.

The delivery and assessment of ERR must be designed so that the apprentice:

1. knows and understands the range of employer and employee statutory rights and responsibilities under Employment Law and that employment rights can be affected by other legislation as well. This should cover the apprentice's rights and responsibilities under the Disability Discrimination Act, other relevant equalities legislation and Health & Safety, together with the responsibilities and duties of employers.
2. knows and understands the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Health & Safety and Equality & Diversity training must be an integral part of the apprentice's learning programme;
3. knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme
4. understands the role played by their occupation within their organisation and industry;
5. has an informed view of the types of career pathways that are open to them;
6. knows the types of representative bodies and understands their relevance to their industry and organisation, and their main roles and responsibilities
7. knows where and how to get information and advice on their industry, occupation, training and career;
8. can describe and work within their organisations principles and codes of practice;
9. recognises and can form a view on issues of public concern that affect their organisation and industry

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

## How equality and diversity will be met

The nature of the work means that the Plumbing and Heating Industry is not a traditional career choice for women, but women do qualify and work successfully in the industry and this is encouraged. We are continuing to work with the UK Resource Centre for Women in Science, Engineering and Technology and the Young Woman's Trust to promote the opportunities for women working within the building services engineering sector.

SummitSkills will have overall responsibility for the development and review of the framework and for monitoring equality of opportunity, primarily by the analysis of the National Apprenticeship Service data.

There should be open recruitment of apprentices who meet the selection criteria, regardless of gender, ethnic origin, religion/belief, sexual orientation or disability .

All partners involved in the delivery of the apprenticeship and employers must be committed to a policy of equal opportunities and must have a formal equal opportunities policy and procedure in place. Employers/providers must be able to demonstrate that there are no overt or covert discriminatory practices in selection and employment. All promotional, selection and training activities must comply with relevant legislation such as the Equality Act 2010.

<http://www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/>

Providers will monitor equality of opportunity practice and procedures within their own organisation and take positive action when necessary. It is also recommended that employers/providers conduct an exit interview if the apprentice leaves the programme before completion.

# On and off the job training (Wales)

## Summary of on- and off-the-job training

### *Overview of Foundation (Level 2) Plumbing*

Qualification Total - 596 Training hours (Knowledge elements 132hrs + Competence elements 464hrs)

Essential Skills (ES) - 135 hrs (notional value of 45hrs per ES x 3, which can be offset if previously completed)

Mentoring - 92 hrs (based on 46 wks x 2hrs)

Minimum total of Training hours for this framework = 823 hrs

### *Overview of Apprenticeship (Level 3) Domestic Plumbing & Heating*

There are three pathways an apprentice can choose from, each of which may or may not have options for study within them:

1. Domestic Plumbing and Heating (Oil-Fired, Solid Fuel or Environmental)
2. Domestic Plumbing and Heating (Gas-Fired Warm Air Appliances)
3. Domestic Plumbing and Heating (Gas-Fired Water and Central Heating Appliances)

## **1. Domestic Plumbing and Heating**

### **a) Domestic Oil Fired Systems**

Qualification total - 638 Training hours (Knowledge elements 196hrs + Competence elements 442hrs)

Essential Skills (ES) - 90 Training hours (notional value of 45hrs per ES x 2, which can be offset if previously completed)

Mentoring - 184 Training hours (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway is 912 hrs

### **b) Solid Fuel Systems**

(i) Domestic Solid Mineral Fuel Appliances

Qualification total - 638 Training hours (Knowledge elements 196hrs + Competence elements



442hrs)

Essential Skills (ES) - 90 Training hours (notional value of 45hrs per ES x 2, which can be offset if previously completed)

Mentoring - 184 Training hours (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway is 912 hrs

(ii) Domestic Biomass Fuel Burning Appliances

Qualification total - 659 Training hours (Knowledge elements 218hrs + Competence elements 441hrs)

Essential Skills (ES) - 90 Training hours (notional value of 45hrs per ES x 2, which can be offset if previously completed)

Mentoring - 184 Training hours (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway is 933 hrs

### **c) Environmental Technology Systems**

Qualification total - 549 Training hours (Knowledge elements 91hrs + Competence elements 458hrs)

Essential Skills (ES) - 90 Training hours (notional value of 45hrs per ES x 2, which can be offset if previously completed)

Mentoring - 184 Training hours (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway is 823 hrs

## **2. Domestic Plumbing and Heating (Gas-Fired Warm Air Appliances)**

Qualification Total - 933 hrs (Knowledge elements 266hrs + Competence elements 667hrs)

Essential Skills (ES) - 90 hrs (notional value of 45hrs per ES x 2, which can be offset if previously completed)

Mentoring - 184 hrs (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway - 1207 hrs

## **3. Domestic Plumbing and Heating (Gas-Fired Water and Central Heating Appliances)**

Qualification Total - 1034 hrs (Knowledge elements 266hrs + Competence elements 768hrs)

Essential Skills (ES) - 90 hrs (notional value of 45hrs per ES x 2, which can be offset if

previously completed)

Mentoring - 184 hrs (based on 92 wks x 2hrs)

Minimum total Training hours for this pathway - 1308 hrs

In addition to these hours we would encourage further practice take place in the work place.

Apprenticeships should normally require employment of at least 30 hrs per week as part of their Apprenticeship Agreement.

All training hours must be delivered during contracted working hours under an Apprenticeship Agreement or during a period less than 5 years before the date of application for an Apprenticeship certificate.

Training Hours:

- must be planned, reviewed and evaluated jointly between the apprentice and tutor, teacher, mentor or manager
- must allow access as and when required by the apprentice either to a tutor, teacher, mentor or manager
- must 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

The framework delivery:

- must be planned to make full and effective use of the duration, including the opportunity for apprentices to embed and extend their learning through repeated workplace practice
- some of the Training Hours may be offset through Recognition of Prior Learning (RPL) of suitable qualifications and demonstrable experience gained within 5 years of apprenticeship certificate application
- a completed Training Hours checklist signed by the assessor and apprentice must be provided as evidence that on and off the job hour requirements have been met and is available on SummitSkills website at:  
<http://www.summitskills.org.uk/Apprenticeships/Certification-and-Registration/219>

## Off-the-job training

### *Foundation (Level 2) framework*

**Plumbing** - minimum total off-the-job Training hours is 639 hrs over 24 months

- Yr 1 - 320 hrs
- Yr 2 - 319 hrs

## ***Apprenticeship (Level 3) frameworks***

### **1. Domestic Plumbing and Heating (Oil-Fired, Solid Fuel or Environmental)**

#### **a. Domestic Oil-Fired Systems**

Minimum total off-the-job Training hours is 728 hrs over 24 months

- Yr 1 - 364 hrs
- Yr 2 - 364 hrs

#### **b. Solid Fuel Systems**

##### **(i) Domestic Solid Mineral Fuel Appliances**

Minimum total off-the-job Training hours is 728 hrs over 24 months

- Yr 1 - 364 hrs
- Yr 2 - 364 hrs

##### **(ii) Domestic Biomass Fuel Burning Appliances**

Minimum total off-the-job Training hours is 749 hrs over 24 months

- Yr 1 - 375 hrs
- Yr 2 - 374 hrs

#### **c. Environmental Technology Systems**

Minimum total off-the-job Training hours is 639 hrs over 24 months

- Yr 1 - 320 hrs
- Yr 2 - 319 hrs

### **2. Domestic Plumbing and Heating (Gas-Fired Warm Air Appliances)**

Minimum off-the-job Training hours is 1023 hrs over 24 months

- Yr 1 - 512 hrs
- Yr 2 - 511 hrs

### **3. Domestic Plumbing and Heating (Gas-Fired Water and Central Heating Appliances)**

Minimum off-the-job Training hours is 1124 hrs over 24 months

- Yr 1 - 562 hrs
- Yr 2 - 562 hrs

## How this requirement will be met

Training hours will be achieved through clear and specific outcomes which contribute directly to the successful completion of a framework, and these may include accredited and non-accredited elements of a framework.

Training hours will be delivered through one or more of the following methods: individual and group teaching; e-learning; distance learning; feedback and assessment; guided study.

All Training hours delivery will take place during contracted working hours and while working under an Apprenticeship Agreement. Off the job training hours will be away from the immediate pressures of the workplace eg day release, block release, web based learning, mentoring etc

This will be recorded and evidenced by training provider attendance statistics, assessment reports and apprentice diary/portfolio.

## On-the-job training

### ***Foundation (Level 2) Framework***

**Plumbing** - minimum total on-the-job Training hours is 184 hrs over 24 months

- Yr 1 - 92 hrs
- Yr 2 - 92 hrs

### ***Apprenticeship (Level 3) Framework***

#### **1. Domestic Plumbing and Heating (Oil-Fired, Solid Fuel or Environmental)**

Minimum total on-the-job Training hours is 184 hrs over 24 months

- Yr 1 - 92 hrs
- Yr 2 - 92 hrs

#### **2. Domestic Plumbing and Heating (Gas-Fired Warm Air Appliances)**

Minimum total on-the-job Training hours is 184 hrs over 24 months

- Yr 1 - 92 hrs
- Yr 2 - 92 hrs

#### **3. Domestic Plumbing and Heating (Gas-Fired Water and Central Heating Appliances)**

Minimum total on-the-job Training hours is 184 hrs over 24 months

- Yr 1 - 92 hrs
- Yr 2 - 92 hrs

This is the minimum number of Training hours that should be allocated for the apprentice to gather evidence in accordance with the requirements of the integrated qualification and mentoring

### **How this requirement will be met**

Training hours will be achieved through clear and specific outcomes which contribute directly to the successful completion of the framework, and these may include accredited and non-accredited elements of the framework.

Training hours will 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.

All Training Hours delivery to take place during contracted working hours and while working under an Apprenticeship Agreement.

On the job Training Hours must be recorded eg in a diary/portfolio checked by an assessor, logs of peer review discussions, performance reviews etc

This will be evidenced by apprentices portfolio, employer dialogue, qualification assessment records and reports.

# Wider key skills assessment and recognition (Wales)

## Improving own learning and performance

There is no requirement for apprentices to provide evidence they have achieved the Wider Key Skill of ***Improving own learning and performance***. However, it should be noted that the content, delivery and assessment of the combined qualifications within the Foundation (Level 2) and Apprenticeship (Level 3) frameworks will provide an opportunity for the apprentice to demonstrate they have the ability, to improve their own learning and performance in the work place and training environment.

## Working with others

There is no requirement for apprentices to provide evidence they have achieved the Wider Key Skill of ***Working with others***. However, it should be noted that the content, delivery and assessment of the combined qualifications within the Foundation (Level 2) and Apprenticeship (Level 3) frameworks will provide an opportunity for the apprentice to demonstrate they have the ability, to work with others in the work place and training environment.

## Problem solving

There is no requirement for apprentices to provide evidence they have achieved the Wider Key Skill of ***Problem Solving***. However, it should be noted that the content, delivery and assessment of the combined qualifications within the Foundation (Level 2) and Apprenticeship (Level 3) frameworks will provide an opportunity for the apprentice to demonstrate they have the ability, to solve theoretical and practical problems in the work place and training environment.

## Additional employer requirements

Although not a requirement for issuing an Apprenticeship Completion Certificate, employers in the building services engineering sector **encourage** organisations delivering a learning and assessment programme for the Apprenticeship (Level 3) frameworks to integrate the **Level 3 Award in the Fundamental Principles and Requirements of Environmental Technology Systems** (BPEC 600/6377/4, City & Guilds 600/4282/5, EAL 600/0665/1, LCL 600/5715/4 or ProQual 600/6253/8; credit value 2, GLH 15) and/or the LCL Level 3 Award in Energy Efficiency for Gas fired and Oil fired domestic heating and Hot water systems (QCF) 601/3942/0 into their delivery models.

Matching qualifications from other Awarding Organisations may intermittently become available on the OFQUAL Register and this framework document will be updated bi-annually to reflect suitable qualifications at that time.

It should be noted that the delivery of this qualification may not attract funding.

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apprenticeship  
FRAMEWORKS ONLINE

For more information visit  
[www.afo.sscalliance.org](http://www.afo.sscalliance.org)