

SummitSkills Pre-Apprenticeship Framework for Building Services Engineering in Northern Ireland

Contents

1. Overview
2. Entry requirements
3. Delivery Programme
4. Delivery Guidance:
 - i. Employability Training
 - ii. Technical Training
 - iii. Workplace Sampling
5. Progression
6. Funding
- Appendix 1: Technical Certificate Mapping
- Appendix 2: SummitSkills NI Apprenticeship details

1. Overview

The purpose of this pre-employment framework is to provide young people who are attracted to working in the Building Services Engineering sector with the basic employment and trade skills that will help make them attractive to potential employers, and strong candidates for future acceptance onto full apprenticeship programmes.

The framework is designed to be delivered over a 52 week period and is made up of three core components:

- Employability Training - to improve generic workplace/employability skills
- Technical Training - designed to be an introduction to the core knowledge and skills associated with Building Engineering Services – culminating in the achievement of a recognised Vocationally Related Qualification (VRQ): EAL Level 2 Intermediate Certificate in Engineering and Technology
- Workplace Sampling – periods of focussed work experience with partner Building Services Engineering companies

2. Entry requirements

There are no formal entry requirements for the Pre-Apprenticeship Framework. However, it is recommended that candidates complete a generic aptitude test before entry onto the programme. This assesses both the individual ability to complete the programme and highlights areas where additional support for learners may be required.

BPEC offer a suitable entry assessment test and guidance can be provided on a suitable pass mark for new entrants

3. Delivery Programme

The delivery programme outlined below is based upon a five day per week (21 hour) model for the 'in-centre' components. Because of the nature of the businesses involved in the building services engineering sector it is intended that the work sampling components of the framework are delivered on a block release, rather than a day release basis.

Weeks 1-12	<p>Employability training – to include:</p> <ul style="list-style-type: none"> • Introduction to Employment Responsibilities and Right • Essential Skills • Communication, Application of Number and ICT commenced and delivered throughout the 52 provision • Health and Safety requirements: <ul style="list-style-type: none"> - General introduction to main appropriate Health and Safety Regulations (Health and Safety at Work Act; Workplace Regulations; Construction (Design and Management) Regulations; Electricity at Work Regulations; PUWER Regulations; Working at Height Regulations; COSHH) - Appropriate CSCS/CSR card scheme training - Manual handling training - Abrasive Wheels training • Development of employability skills: making a good impression, communication, self belief needed to go into the working environment
Weeks 13-14	<p>Technical Training Begin delivery of core EAL Intermediate Engineering and Technology Certificate units (some of this may be built in with the Health and Safety training covered during weeks 1-12):</p> <ul style="list-style-type: none"> • Engineering Environment Awareness • Engineering Techniques • Engineering Principles
Weeks 15-16 (fortnight before Christmas Break)	<p>Work Sampling Work placement with suitable Building Services Engineering (BSE) or BSE related company*</p>
Weeks 17-18	<p>Christmas Break</p>
Weeks 19-33	<p>Technical Training</p> <ul style="list-style-type: none"> • Continue delivery of core EAL Intermediate Engineering and Technology Certificate units • Begin delivery of chosen units from 'Multi Skilled' optional route • Complete certificate assessments
Weeks 34-52	<p>Work Sampling Work placement with suitable Building Services Engineering (BSE) or BSE related company*</p>

* In the event that a participant is unable to find a work placement, in his/her occupational area, then the participant should remain in directed training with the Training Supplier. Where this is the case, the Training Supplier must be able to clearly demonstrate the specific efforts that have been made to find a suitable work placement and set out the reasons for being unable to source such a placement. Furthermore, where a suitable work placement is unavailable, the Training Supplier must build into the participant's personal training plan, the activities and outcomes that will be provided in-house, that will develop those skills and attributes which would otherwise have been gained in a work placement. This in-house "placement" should also contain an element of directed job-search activity.

4.1 Delivery Guidance: Employability Training

The following guidance is included to give delivery centres an idea of the components that should be covered during the initial period of employability training. This will invariably differ slightly from centre to centre, but delivery of the following main elements should ensure a degree of commonality.

Employment Responsibilities and Rights

The following checklist is designed to highlight the main points that should be covered regarding employment responsibilities and rights:

Laws affecting employment, the main ones being:

- The Employment Rights Act 1996
- The Employment Relations Act 1999
- The Employment Act 2002

Basic employee rights:

- Written statement of employment
- National minimum wage
- A safe and healthy work place
- Equal pay for equal work
- Protection from discrimination on the grounds of disability, religion, race, gender and sexual orientation
- Protection against unfair dismissal
- Parental leave and time off for family emergencies
- Guaranteed payments in respect of lay-off and short-time working
- Time off to fulfil trade union duties
- Notice of termination of employment
- Sick pay
- Protection of employment upon the transfer of a business
- No unlawful deductions from wages
- Redundancy pay
- Maternity pay
- Limits on working time
- Paid annual leave

Employment law requires that employees receive a statement of employment within two months of starting work. The statement of employment should contain:

- The name of your employer and your name
- The date your employment started
- Your job title and a summary of your duties
- The period of employment stating whether it's a permanent position
- The place of work
- How much you'll be paid, how often, and the method of payment; it should also include information such as travel allowances and any deductions from pay
- Hours of work
- Holiday entitlement
- Procedures for dealing with absence from work through illness, or for other reasons, and how to notify the employer if absent
- Details of pension scheme if applicable
- Details of how to terminate employment (for example, length of notice required by both you and your employer)

- Disciplinary rules and procedures, but these are usually contained in a separate document such as a staff handbook
- Grievance procedures, which again could be contained in a staff handbook

Information on the following items could also be included in the statement, or alternatively in a staff handbook:

- Appraisal arrangements
- Training and development
- Trade union membership
- Health and safety matters
- Maternity rights
- Redundancy policy
- Company vehicles
- Smoking policy

Essential Skills

The following guidance on Essential Skills is summarised from the DEL Training for Success Operational guidelines:

- Essential Skills in Communication and Application of Number must be delivered for all learners who do not have a valid exemption
- Learners who have achieved GCSEs grades A* - C in English and/or Mathematics; Irish Leaving Certificate (Grades A–C) in English or Mathematics at ordinary/standard level grades; or Key Skills/Essential Skills at a level required within five years prior to starting *Training for Success* will be exempt from Essential Skills training in Communication and Application of Number respectively
- Learners who have achieved GSCE grade D in English and/or Mathematics should be encouraged to work towards completing Level 2 Essential Skills training in Communication and Application of Number respectively
- Learners who have achieved GSCE grades E/F in English and/or Mathematics should be encouraged to work towards completing Level 1 Essential Skills training in Communication and Application of Number respectively
- Learners who have achieved GSCE grade G in English and/or Mathematics should be encouraged to work towards completing Entry Level 3 Essential Skills training
- Essential Skills training courses must be at least 40 hours duration per Essential Skill area

Health and Safety requirements

This element of the employability training should focus primarily on familiarising the learners with the main pieces of legislation and the regulations that are designed to keep people safe in the workplace – and, most importantly, how these regulations are applied on worksites and in a workshop environment. The coverage of the main Health and Safety regulations (as listed out in the delivery programme summary) will also contribute to the learning that is required for the mandatory units of the EAL Intermediate Certificate in Engineering and Technology (particularly unit ETI/001 Engineering Environment Awareness).

As the learners engaged in the Pre-Apprenticeship Framework will not be employed, they will not be able to obtain full CSCS/CSR cards. However, during the employability training phase of the delivery programme it would be favourable for learners to be made aware of what is required in order to obtain a CSCS/CSR card, and for them to practice answering examples of Health and Safety questions they are likely to face. This will help to ensure that learners will be fully aware of what they need to do in terms of CSCS/CSR affiliation as and when they find an employer and are in a position to fully join a CSCS/CSR scheme.

Learners should also be fully trained in safe manual handling and safe use of abrasive wheels before they begin work placements and practical work in the Training Centre workshop areas.

Development of employability skills

The training aims outlined above should also be complemented by sessions which are specifically designed to prepare the learners for the reality of life in the working world. These sessions should include:

- Tips on how to approach employers
- How to make a good impression (both in interviews and in the workplace)
- Communication techniques
- Methods for developing self belief needed for the working environment

4.2 Delivery Guidance: Technical Training

The technical training element of the pre apprenticeship framework consists of the EAL Intermediate Certificate in Engineering and Technology - Pathway E (Multi-Skill). This award is achieved by completing three mandatory units:

- ETI/001 Engineering Environment Awareness
- ETI/002 Engineering Techniques
- ETI/003 Engineering Principles

Together with a further three from a suite of optional units. To ensure that learners are able to build up a fully rounded overview of the building services engineering sector, SummitSkills **recommends** that learners are required to choose **one** unit from **three** of the following optional unit sub categories:

Electrotechnical sub category:

- ETI/004 Electrical and Electronic Principles
- ETI/005 Electrical and Electronic Testing Methods
- ETI/006 Electrical and Electronic Systems & Devices
- ETI/023 Electrical Installation Methods, Wiring and Circuit Protection
- ETI/024 Basic Electrical Circuit Inspection/Testing and Fault Diagnosis

Security Installation / Maintenance

- ETI/022 Personal Computer (PC) Maintenance Methods
- ETI/029 Install Specified Security Systems
- ETI/030 Security Installation Design

Plumbing and Heating sub category:

- ETI/025 Building Services Pipework Fixing, Bending and Jointing Methods

Refrigeration and Air-Conditionings sub category:

- ETI/027 Installation and Servicing of Refrigeration Equipment
- ETI/028 Installation and Servicing of Air-conditioning Equipment
- ETI/010 Sheet-metal Operations

Building Services related engineering applications sub category:

- ETI/026 Building Services – Knowledge of Systems
- ETI/007 Fabrication and Welding Principles
- ETI/008 Welding Techniques
- ETI/011 Non-fusion Joining Techniques
- ETI/012 Thermal Cutting Techniques

Engineering maintenance sub category:

- ETI/013 Engineering Maintenance Safety Practices
- ETI/014 Engineering Maintenance Techniques
- ETI/015 Engineering Maintenance Planning

Other Engineering applications sub category:

- ETI/018 Machining Techniques and Technology (Turning and Milling)
- ETI/019 Machining Techniques and Technology (Turning)
- ETI/020 Machining Techniques and Technology (Milling)
- ETI/021 Grinding Techniques and Technology
- ETI/009 Platework Operations
- ETI/017 Fitting and Assembly Techniques and Technology
- ETI/016 Material Properties, Uses and Processes

It is recommended that delivery centres allow candidates to complete the core units before deciding upon which of the optional units to select.

The tables contained at Appendix 1 demonstrate how the units from the EAL Intermediate Certificate in Engineering and Technology map to the following Level 2 SummitSkills sector related VRQs:

- City and Guilds 6129 – Certificate in Basic Plumbing Studies
- City and Guilds 6128 – Certificate in Heating and Ventilating
- City and Guilds 6127 – Certificate in Refrigeration and Air Conditioning
- City and Guilds 2330 – Certificate in Electrotechnical Technology

Appendix 1 also shows how the EAL Intermediate Certificate in Engineering and Technology maps to the City and Guilds 6132 Certificate in Domestic Natural Gas Installation and Maintenance – a qualification closely linked to the building services engineering industry, but which is covered by the footprint of Energy and Utility Skills (EUS).

4.3 Delivery Guidance: Workplace Sampling

Work placements in the occupational area chosen by the participant may not always be available. Where this is the case, participants should if possible take up an alternative work placement in another area of Building Services that is related to the participant's chosen path. This will enable the participant to learn valuable transferable skills that can later be applied within his/her chosen occupational area.

Where this is the case, Training Suppliers must be able to clearly demonstrate the specific efforts that have been made to find a suitable work placement in the appropriate occupational area, and set out the reasons for being unable to source such a placement. Furthermore, it should be built into a participant's personal training plan, the benefits and outcomes of any such alternative work placement.

In the event that a participant is unable to find a work placement, either in his/her occupational area or otherwise, then the participant should remain in directed training with the Training Supplier. Where this is the case, the Training Supplier must be able to clearly demonstrate the specific efforts that have been made to find a suitable work placement and set out the reasons for being unable to source such a placement.

Furthermore, where a work placement of any kind is unavailable, the Training Supplier must build into the participant's Personal Training Plan, the activities and outcomes that will be provided in-house, that will develop those skills and attributes which would otherwise have been gained in a work placement. This in-house "placement" should also contain an element of directed job-search activity.

All work sampling placements must be formalised through the completion of a training agreement between the learner, the delivery centre and the employer – outlining exactly what is required from each part during the duration of the placement. (Additional guidance on training agreements will be provided by DEL).

SummitSkills recommends that initially only employers with a history of providing apprenticeships should be permitted to provide work placements.

4.4 Workplace Monitoring

The workplace monitoring element of the programme is to be delivered inline with the DELNI Occupational guidelines for the 52 week Pre-Apprenticeship Component.

5. Progression

Upon successful completion of the Pre Apprenticeship framework, candidates should be ideally placed to progress onto full apprenticeship programmes in their preferred Building Services Engineering occupational area (details of these schemes are at Appendix 2). If suitable employment places cannot be secured, the nature of the Intermediate Certificate in Engineering and Technology and the employability training means that the skills attained can be transferred to other engineering related occupational areas.

Completion of the Pre-Apprenticeship framework would also enable candidates to progress onto one of the following Building Services related qualifications:

- BTEC National Certificate in Building Services Engineering (Level 3)
- BTEC National Diploma in Building Services Engineering (Level 3)

6. Funding

The funding for this framework is to be taken from the DELNI occupational guidelines for the 52 week Pre-Apprenticeship component, to be published August 2008 (currently £4,660).

7. Awarding Body

EAL (Ema Awards Limited) is the UK's leading awarding body for engineering, technology and building services engineering. EAL awards over 70% of engineering vocational qualifications, and offers National Vocational Qualifications (NVQs), Vocationally Related Qualifications (VRQs), Key Skills and support services to enable high-quality training for a range of occupations.

The Intermediate Certificate in Engineering and Technology is recognised as a Technical Certificate at Level 2 within the engineering framework and is used in the SummitSkills pre-apprenticeship framework. For an application pack to become an EAL-approved VRQ centre, please contact John Forster, Business Development Executive, at email: jforster@eal.org.uk or by phone at 07738 342552

Appendix 1: Mapping to Level 2 C&G 6129 Certificate in Basic Plumbing Studies

		C&G 6129 Level 2 Plumbing Technical Certificate Units										
		Unit 1 Safety	Unit 2 Key Principles	Unit 3 Common Plumbing Processes	Unit 4 Cold Water Systems	Unit 5 Domestic Hot water Systems	Unit 6 Above Ground Discharge Pipework Systems	Unit 7 Central Heating Systems – Pipework	Unit 8 Electrical Supply & Earth Continuity Systems	Unit 9 Sheet Lead Weathering Systems	Unit 10 Environmental Awareness	Unit 11 Effective Working Relationships
EAL Intermediate Certificate in Engineering and Technology (Multi-skilled pathway) mapped to the City & Guilds 6129 Level 2 Plumbing Technical Certificate												
= No discernable coverage												
✓ = 0-25% coverage												
✓✓ = 25-50% coverage												
✓✓✓ = 50-75% coverage												
EAL Intermediate Certificate in Eng & Tech Multi-Skilled Pathway Units	Engineering Environment Awareness	✓✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Engineering Techniques	✓	✓	✓					✓			
	Engineering Principles	✓	✓		✓	✓	✓		✓	✓		
	Building Services pipework fixing, bending and jointing methods	✓	✓	✓✓	✓	✓	✓	✓				
	Building Services – Knowledge of Systems	✓	✓		✓	✓	✓	✓				
	Installation and Servicing of Refrigeration Equipment	✓										
	Installation and Servicing of Air-conditioning Equipment	✓										
	Install Specified Security Systems	✓										
	Security Installation Design	✓										
	Electrical & Electronic Principles	✓	✓						✓			
	Electrical & Electronic Testing Methods								✓			
	Electrical & Electronic Systems & Devices								✓			
	Fabrication & Welding Principles		✓							✓		
	Welding Techniques									✓		
	Platwork Operations											
	Sheet-metal Operations											
	Non-fusion Joining											
	Thermal Cutting											
	Maintenance Safety Practices	✓			✓	✓	✓	✓				
	Maintenance Techniques	✓		✓	✓	✓	✓	✓				
	Maintenance Planning	✓			✓	✓		✓				
	Material Processes	✓					✓			✓		
	Fitting and Assembly Techniques and Technology	✓		✓	✓	✓	✓					
Machining Techniques and Technology (Turning & Milling)												
Machining Techniques and Technology (Turning)												
Machining Techniques and Technology (Milling)												
Grinding Techniques and Technology												
PC Maintenance												
Electrical Installation Methods, Wiring and Circuit Protection	✓							✓✓				
Basic Electrical Circuit Inspection /Testing and Fault Diagnosis	✓							✓				

For example: The EAL Unit 'Building Services pipework fixing, bending and jointing methods' deals with the basics of pipe bending (setting up a bend, pulling a basic bend). The common plumbing processes unit covers this content as well, but then goes into much more detail about the intricacies of pipe bending including techniques for setting up complex off-sets, pass-overs and loops etc. This is why the overall percentage of coverage remains relatively low.

Mapping to Level 2 C&G 6128 Certificate in Heating and Ventilating

EAL Intermediate Certificate in Engineering and Technology (Multi-skilled pathway) mapped to the City & Guilds 6128 Level 2 H&V Technical Certificate		C&G 6128 Level 2 H&V Technical Certificate Units			
		Unit 1 MES Core Studies	Unit 2 Domestic Installation	Unit 3 Industrial and Commercial Installation	Unit 4 Ductwork
= No discernable coverage					
✓ = 0-25% coverage					
✓✓ = 25-50% coverage					
✓✓✓ = 50-75% coverage					
EAL Intermediate Certificate in Eng & Tech Multi-Skilled Pathway Units	Engineering Environment Awareness	✓	✓	✓	✓
	Engineering Techniques	✓	✓	✓	✓
	Engineering Principles	✓	✓	✓	✓
	Building Services pipework fixing, bending and jointing methods	✓	✓	✓	✓
	Building Services – Knowledge of Systems	✓	✓	✓	✓
	Installation and Servicing of Refrigeration Equipment	✓			
	Installation and Servicing of Air-conditioning Equipment	✓			✓
	Install Specified Security Systems				
	Security Installation Design				
	Electrical & Electronic Principles	✓	✓	✓	✓
	Electrical & Electronic Testing Methods	✓			
	Electrical & Electronic Systems & Devices	✓			
	Fabrication & Welding Principles		✓	✓	
	Welding Techniques			✓	
	Platework Operations				
	Sheet-metal Operations				✓
	Non-fusion Joining				
	Thermal Cutting				
	Maintenance Safety Practices	✓			
	Maintenance Techniques	✓	✓	✓	✓
	Maintenance Planning	✓			
	Material Processes	✓			
	Fitting and Assembly Techniques and Technology	✓		✓	
	Machining Techniques and Technology (Turning & Milling)				
	Machining Techniques and Technology (Turning)				
	Machining Techniques and Technology (Milling)				
	Grinding Techniques and Technology			✓	
	PC Maintenance				
	Electrical Installation Methods, Wiring and Circuit Protection	✓	✓	✓	✓
	Basic Electrical Circuit Inspection/Testing and Fault Diagnosis	✓	✓	✓	✓

Mapping to Level 2 C&G 6127 Certificate in Refrigeration and Air Conditioning

EAL Intermediate Certificate in Engineering and Technology (Multi-skilled pathway) mapped to the City & Guilds 6127 Level 2 RAC Technical Certificate		C&G 6127 Level 2 RAC Technical Certificate Units	
		Unit 1 MIES Core Studies	Unit 2 Small Refrigeration and Air Conditioning Systems
= No discernable coverage ✓ = 0-25% coverage ✓✓ = 25-50% coverage ✓✓✓ = 50-75% coverage			
EAL Intermediate Certificate in Eng & Tech Multi-Skilled Pathway Units	Engineering Environment Awareness	✓	✓
	Engineering Techniques	✓	✓
	Engineering Principles	✓	✓
	Building Services pipework fixing, bending and jointing methods	✓	✓
	Building Services – Knowledge of Systems	✓	✓
	Installation and Servicing of Refrigeration Equipment	✓	✓
	Installation and Servicing of Air-conditioning Equipment	✓	✓
	Install Specified Security Systems		
	Security Installation Design		
	Electrical & Electronic Principles	✓	✓
	Electrical & Electronic Testing Methods	✓	✓
	Electrical & Electronic Systems & Devices	✓	✓
	Fabrication & Welding Principles		✓
	Welding Techniques		
	Platework Operations		
	Sheet-metal Operations		✓
	Non-fusion Joining		
	Thermal Cutting		
	Maintenance Safety Practices	✓	
	Maintenance Techniques	✓	
	Maintenance Planning	✓	
	Material Processes	✓	
	Fitting and Assembly Techniques and Technology	✓	
	Machining Techniques and Technology (Turning & Milling)		
	Machining Techniques and Technology (Turning)		
	Machining Techniques and Technology (Milling)		
	Grinding Techniques and Technology		
	PC Maintenance		
	Electrical Installation Methods, Wiring and Circuit Protection	✓	✓
	Basic Electrical Circuit Inspection/Testing and Fault Diagnosis	✓	✓

Mapping to Level 2 C&G 2330 Certificate in Electrotechnical Technology

EAL Intermediate Certificate in Engineering and Technology (Multi-skilled pathway) mapped to the City & Guilds 2330 Level 2 Technical Certificate in Electrotechnical Technology

- ☐ = No discernable coverage
- ✓ = 0-25% coverage
- ✓✓ = 25-50% coverage
- ✓✓✓ = 50-75% coverage

		C&G 2330 Level 2 Electrotechnical Technology Technical Certificate Units								
		Working effectively and safely in the electrotechnical environment	Principles of electrotechnology	Application of health and safety and electrical principles	Installation (Buildings and Structures)	Electrical Maintenance	Highway Electrical Systems	Installing Instrumentation and Associated Equipment	Electrotechnical Panel Building	Electrical Machines Repair and Rewind
EAL Intermediate Certificate in Eng & Tech Multi-Skilled Pathway Units	Engineering Environment Awareness	✓✓	✓	✓	✓	✓	✓	✓	✓	✓
	Engineering Techniques	✓								
	Engineering Principles	✓	✓✓	✓	✓	✓	✓	✓	✓	✓
	Building Services pipework fixing, bending and jointing methods		✓	✓	✓	✓	✓	✓	✓	✓
	Building Services – Knowledge of Systems		✓	✓	✓	✓	✓	✓	✓	✓
	Installation and Servicing of Refrigeration Equipment	✓		✓	✓	✓				
	Installation and Servicing of Air-conditioning Equipment	✓		✓	✓	✓				
	Install Specified Security Systems	✓	✓	✓	✓	✓				
	Security Installation Design	✓	✓	✓	✓	✓				
	Electrical & Electronic Principles	✓	✓✓	✓	✓	✓	✓	✓	✓	✓
	Electrical & Electronic Testing Methods	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Electrical & Electronic Systems & Devices	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fabrication & Welding Principles									
	Welding Techniques									
	Platework Operations									
	Sheet-metal Operations									
	Non-fusion Joining									
	Thermal Cutting									
	Maintenance Safety Practices	✓✓					✓			
	Maintenance Techniques						✓			
	Maintenance Planning						✓			
	Material Processes									
	Fitting and Assembly Techniques and Technology								✓	
	Machining Techniques and Technology (Turning & Milling)									
	Machining Techniques and Technology (Turning)									
	Machining Techniques and Technology (Milling)									
	Grinding Techniques and Technology									
	PC Maintenance	✓	✓	✓	✓	✓				
Electrical Installation Methods, Wiring and Circuit Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Basic Electrical Circuit Inspection/Testing and Fault Diagnosis	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Mapping to Level 2 C&G 6132 Certificate in Domestic Natural Gas Installation and Maintenance

		C&G 6132 Level 2 Domestic Natural Gas Installation and Maintenance Technical Certificate Units										
		Unit 1 Common Gas Processes	Unit 2 Maintaining Safety in Natural Gas	Unit 3 Applying Core Gas Safety Measures	Unit 4 Effective Working Relationships	Unit 5 Electrical Supply and Earth Continuity	Unit 6 Cookers and laundry appliances	Unit 7 Central Heating and hot water heating appliances	Unit 8 Install, commission, de-commission meters	Unit 9 Install, commission, de-commission pipework	Unit 10 Warm air and water heating appliances	Unit 11 Space heating appliances
EAL Intermediate Certificate in Engineering and Technology (Multi-skilled pathway) mapped to the City & Guilds 6132 Level 2 Domestic Natural Gas Inst and Maint Technical Certificate = No discernable coverage ✓ = 0-25% coverage ✓✓ = 25-50% coverage ✓✓✓ = 50-75% coverage												
EAL Intermediate Certificate in Eng & Tech Multi-Skilled Pathway Units	Engineering Environment Awareness	✓	✓✓	✓	✓	✓						
	Engineering Techniques	✓	✓	✓								
	Engineering Principles	✓	✓		✓	✓						
	Building Services pipework fixing, bending and jointing methods	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
	Building Services – Knowledge of Systems	✓	✓				✓	✓	✓	✓	✓	✓
	Installation and Servicing of Refrigeration Equipment	✓	✓									
	Installation and Servicing of Air-conditioning Equipment	✓	✓									
	Install Specified Security Systems					✓						
	Security Installation Design					✓						
	Electrical & Electronic Principles					✓						
	Electrical & Electronic Testing Methods					✓						
	Electrical & Electronic Systems & Devices					✓						
	Fabrication & Welding Principles		✓									
	Welding Techniques		✓									
	Platework Operations		✓									
	Sheet-metal Operations		✓									
	Non-fusion Joining		✓									
	Thermal Cutting		✓									
	Maintenance Safety Practices		✓									
	Maintenance Techniques		✓									
	Maintenance Planning		✓									
	Material Processes	✓										
	Fitting and Assembly Techniques and Technology		✓									
	Machining Techniques and Technology (Turning & Milling)											
	Machining Techniques and Technology (Turning)											
	Machining Techniques and Technology (Milling)											
	Grinding Techniques and Technology		✓									
	PC Maintenance					✓						
	Electrical Installation Methods, Wiring and Circuit Protection		✓			✓						
	Basic Electrical Circuit Inspection/Testing and Fault Diagnosis		✓			✓						

Appendix 2: Progression Routes (SummitSkills NI Apprenticeship Frameworks – Level 2)

people:skills:jobs:



Level 2 Apprenticeship Framework Mechanical Engineering Service (Plumbing)

This framework has been developed by the Department for Employment and Learning in discussion with SummitSkills.

1.0 PROVISION CONTENT

The Provision shall comprise four main elements to be delivered in an integrated manner, not isolated subjects.

PRACTICAL TRAINING ↔ RELATED KNOWLEDGE ↔ ESSENTIAL & KEY SKILLS ↔ RELEVANT WORK PLACE TRAINING

2.0 MINIMUM MANDATORY OUTCOMES

Achievement in these will be assessed by verification through the appropriate awarding body certificate.

NVQ Level 2 Mechanical Engineering Services – Plumbing

Full details of these NVQs are available on the NVQ database or from the appropriate Awarding Body.

3.0 MANDATORY ESSENTIAL AND KEY SKILLS:

Essential Skills: Application of Number - Level 2 Communication - Level 2

4.0 RELATED KNOWLEDGE

Technical Certificate: - City and Guilds Level 2 Certificate: Basic Plumbing Skills. The apprentice must also complete the Employment Rights and Responsibilities additional unit.

5.0 GENERAL

It is the responsibility of the Supplier to ensure that the requirements of this framework are delivered in accordance with Training for Success Operational Guidelines.

Certificates must be submitted as evidence of achievement for all the mandatory requirements of this framework. Upon receipt of the required evidence a Level 2 Apprenticeship Certificate will be issued and ORF released.

The Participant must be employed from day one

Department for Employment and Learning
61 Fountain Street
Belfast
BT1 5EX
www.delni.gov.uk
Telephone :- (028) 9044 1700
Fax :- (028) 9044 1881

Further information may be obtained from
either organisation

Framework No.
TTS – level 2 – 25 Issue 1: 08/07

SummitSkills
VEGA House,
Opel Drive, Fox Milnes
Milton Keynes
MK10 9RG MK15 0DF
www.summitskills.org.uk
Tel: 01908 305980
Fax: 01908 305989

people:skills:jobs:



Level 2 Apprenticeship Framework Mechanical Engineering Service (HVACR)

This framework has been developed by the Department for Employment and Learning in discussion with SummitSkills.

1.0 PROVISION CONTENT

The Provision shall comprise four main elements to be delivered in an integrated manner, not isolated subjects.

PRACTICAL TRAINING ↔ RELATED KNOWLEDGE ↔ ESSENTIAL & KEY SKILLS ↔ RELEVANT WORK PLACE TRAINING

2.0 MINIMUM MANDATORY OUTCOMES

Achievement in these will be assessed by verification through the appropriate awarding body certificate.

NVQ Level 2 - in one of the following: -

- either Mechanical Engineering Services: Heating & Ventilating - Installation,
- or Mechanical Engineering Services: Heating & Ventilating - Maintenance of System Components,
- or Mechanical Engineering Services: Small Commercial Refrigeration & Air Conditioning Systems

Full details of these NVQs are available on the NVQ database or from the appropriate Awarding Body.

3.0 MANDATORY ESSENTIAL AND KEY SKILLS

Essential Skills: Application of Number - Level 1 Communication - Level 2

Key Skills: Information Technology – Level 1

4.0 RELATED KNOWLEDGE

City & Guilds Technical Certificate at Level 2 in one of the following:

- either Mechanical Engineering Services: Heating & Ventilating - Installation,
- or Mechanical Engineering Services: Heating & Ventilating - Maintenance of System Components,
- or Mechanical Engineering Services: Small Commercial Refrigeration & Air Conditioning Systems

The apprentice must also complete knowledge and Induction covering workplace Employment Rights and Responsibilities (ERR).

5.0 GENERAL

It is the responsibility of the Supplier to ensure that the requirements of this framework are delivered in accordance with Training for Success Operational Guidelines. Certificates must be submitted as evidence of achievement for all the mandatory requirements of this framework. Upon receipt of the required evidence a Level 2 Apprenticeship Certificate will be issued and ORF released.

The Participant must be employed from day one

Department for Employment and Learning
61 Fountain Street
Belfast
BT1 5EX
www.delni.gov.uk
Telephone :- (028) 9044 1700
Fax :- (028) 9044 1881

Further information may be obtained from
either organisation

Framework No.
TTS – Level 2 – 24 Issue 1: 08/07

SummitSkills
Vega House,
Opel Drive, Fox Milne,
Milton Keynes,
MK15 0DF
www.summitskills.org.uk
Tel: 01908 303980
Fax: 01908 303980

Appendix 2: Progression Routes (SummitSkills NI Apprenticeship Frameworks – Level 3)

people:skills:jobs:



Level 3 Apprenticeship Framework Mechanical Engineering Service (HVACR)

The content of this framework has been agreed between the Department for Employment and Learning and Summit Skills. This is the only NVQ Level 3 training in this skill acceptable for the receipt of Training for Success funding.

1.0 GENERAL

This framework specifies the standards and the criteria for the delivery of a Level 3 Apprenticeship training provision to achieve qualified status within the Heating & Ventilating and Refrigeration & Air Conditioning Industries. Successful completion of the provision will lead to the award of an NVQ Level 3 qualification and recognition as a qualified person within the industry sector.

2.0 PROVISION CONTENT

QUALIFICATION TITLE	LEVEL	UNITS REQUIRED	RELATED KNOWLEDGE (minimum)
Heating and Ventilating Installation Or Heating and Ventilating: Maintenance of System Components Or Small Commercial Refrigeration and Air Conditioning Systems	2 2 2	All units as required by the chosen route	Certificate In Heating and Ventilating Installation Or Certificate In Heating and Ventilating: Maintenance of System Components. Or Certificate In Small Commercial Refrigeration and Air Conditioning Systems and Employment Rights and Responsibilities
Heating and Ventilating Installation Or Heating and Ventilating: Rectification of Systems Or Refrigeration and Air Conditioning Systems	3 3 3	All units as required by the chosen route	Certificate In Heating and Ventilating Installation. Or Certificate In Heating and Ventilating: Rectification of Systems. Or Certificate In Complex Commercial Refrigeration and Air Conditioning Systems and Employment Rights and Responsibilities

2.1 Additional Employer Requirement (Optional)

Domestic Gas Installations – Certificate of Competency (ACS), Industrial Gas Installations – Certificate of Competency (ACS), Unvented Hot Water Systems, Oxy-Acetylene/Metal Arc Welding – SKILL card registration, Abrasive Wheels Regulations, First Aid, Site Safety, Fire Safety, Electrical Safety.

3.0 ESSENTIAL MANDATORY AND KEY SKILLS

Essential Skills: Application of Number – Level 2 Communication – Level 2
Key Skills: Information Technology – Level 1

A relevant NVQ/GNVQ Essential/Key Skills certificate will be required to show satisfactory achievement in these except where there is a recognised alternative.

4.0 RESPONSIBILITIES

It is the responsibility of the supplier to ensure that the requirements of this framework are delivered in accordance with the Training for Success Operational Guidelines.

The Participant must be employed from day one

Department for Employment and Learning
81 Fountain Street
Belfast
BT1 5EX
Telephone :- (028) 9044 1700
Fax :- (028) 9044 1881
www.delni.gov.uk

Further information may be obtained
from either organisation

Framework No.
TTS – Level 3 – 312 Issue 1: 08/07

SummitSkills
Vega House,
Opal Drive, Fox Milne,
Milton Keynes,
MK15 0DF
Tel: 01908 303980
Fax: 01908 303989
www.summitskills.org.uk

people:skills:jobs:



Level 3 Apprenticeship Framework Mechanical Eng. Services (MES) Plumbing

The content of this framework has been agreed between the Department for Employment and Learning and SummitSkills and is the only Level 3 training in this skill acceptable for the receipt of Training for Success funding.

1.0 GENERAL

This framework specifies the standards and the criteria for the delivery of a Level 3 Apprenticeship training provision to achieve qualified status within the Building Services Engineering Sector. Successful completion of the provision will lead to the award of an NVQ Level 3 qualification and recognition as a qualified person within the industry sector.

2.0 PROVISION CONTENT

QUALIFICATION TITLE	LEVEL	UNITS REQUIRED	RELATED KNOWLEDGE (minimum)
MES Plumbing	2	All units as required for the NVQ	Certificate in Basic Plumbing Studies
MES Plumbing	3	All units as required for the NVQ	Certificate in Domestic Plumbing Studies

3.0 MANDATORY ESSENTIAL AND KEY SKILLS

Essential Skills: Application of Number – Level 2 Communication – Level 2
Key Skills: Information Technology – Level 1

4.0 RESPONSIBILITIES

It is the responsibility of the supplier to ensure that the requirements of this framework are delivered in accordance with the Training for Success Operational Guidelines.

The Participant must be employed from day one

Department for Employment and Learning
61 Fountain Street
Belfast
BT1 5EX
www.delni.gov.uk
Telephone :- (028) 9044 1700
Fax :- (028) 9044 1881

Further information may be obtained
from either organisation

Framework No.
TFS – Level 3 – 316 Issue 1: 08/07

SummitSkills Ltd.
Fairbourne Drive, Atherbury
Milton Keynes, MK10 9RD

Telephone :0870 3514630
Fax: 01908 487709
www.summitskills.org.uk

people:skills:jobs:



Level 3 Apprenticeship Framework Electrotechnical Services

The content of this framework has been agreed between the Department for Employment and Learning and Summit Skills. This is the only NVQ Level 3 training in this skill acceptable for the receipt of Training for Success funding.

1.0 GENERAL

This framework specifies the standards and the criteria for the delivery of a Level 3 Apprenticeship training provision to achieve qualified status within the Electrical Industry. Successful completion of the provision will lead to the award of an NVQ Level 3 qualification and recognition as a qualified person within the industry sector.

2.0 PROVISION CONTENT

QUALIFICATION TITLE	LEVEL	UNITS REQUIRED	RELATED KNOWLEDGE (minimum)
Electrotechnical Services (one of the 4 routes) Or Electrotechnical Panel Building Or Electrical Re-wind & Repair	3	All units as required by the chosen route	Certificate in Electrotechnical Technology level 2 Certificate in Electrotechnical Technology level 3

3.0 MANDATORY ESSENTIAL AND KEY SKILLS

Essential Skills: Application of Number – Level 2 Communication – Level 2
Key Skills: Information Technology – Level 1

4.0 RESPONSIBILITIES

It is the responsibility of the supplier to ensure that the requirements of this framework are delivered in accordance with the Training for Success Operational Guidelines.

The Participant must be employed from day one

Department for Employment and Learning
61 Fountain Street
Belfast
BT1 5EX
Telephone :- (028) 9044 1700
Fax :- (028) 9044 1881
www.delni.gov.uk

Further information may be obtained
from either organisation

Framework No.
TTS – Level 3 – 342 Issue 1: 08/07

SummitSkills
Fairbourne Drive, Atterbury
Milton Keynes
MK10 0RO

Tel: 0845 2309080
Fax: 01302 774040
www.summitskills.org.uk