



A

MODERN APPRENTICESHIP

IN

Heating, Ventilation, Air Conditioning and Refrigeration

At SCQF level 6

FRAMEWORK DOCUMENT
FOR
SCOTLAND

BSE Skills Ltd

Final

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Amendments to this framework

Version	Date of Change	Amendment	Comments
1.0	23 July 2015	Framework first published	
2.0	July 2020	Complete Framework refreshed as part of a wider review including relevant NOS. No significant changes to qualification. Level 6 and Level 7 Frameworks separated.	Full consultation and new proposal document completed
2.1	December 2023	Amendments to enhancements table	Requested by BSE Skills and updated by SDS.

This Framework document is a controlled document. The latest version can be found on the Skills Development Scotland website here:

<https://www.skillsdevelopmentscotland.co.uk/what-we-do/apprenticeships/modern-apprenticeships/modern-apprenticeship-frameworks/>

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Modern Apprenticeships in Scotland

What are Modern Apprenticeships?

Modern Apprenticeships offer those aged over 16 paid employment combined with the opportunity to train for jobs at craft, technician and management level.

Who develops them?

Modern Apprenticeships are developed only by SDS-approved organisations. These organisations consult with employers and key partners in their sector to produce a training programme, which meets the needs of employers.

Who are they for?

Modern Apprenticeships are available to employees aged 16 or over. Employees need to demonstrate to their employer that they have the potential to complete the programme. All Modern Apprentices must have a demonstrable need to acquire significant new knowledge and skills to fulfil their job role. The modern apprenticeship framework selected for the employee must be the most appropriate learning programme generally available to that individual, providing such knowledge and skills.

What's in a Modern Apprenticeship?

In Scotland, there are more than 70 different Modern Apprenticeship Frameworks and they are all designed to deliver a training package around a minimum standard of competence defined by employers through the SDS-approved organisations. There are four different levels of Apprenticeship in Scotland: SCQF 5 (SVQ 2), SCQF 6/7 (SVQ 3), SCQF 8/9 (SVQ 4) and SCQF 10 (SVQ 5). They all contain the same 3 basic criteria:

- A relevant SVQ (or alternative competency based qualifications)
- Core Skills
- Industry specific training

Details of the content of this specific Modern Apprenticeship are given in the next section.

Modern Apprenticeships in Heating, Ventilation, Air Conditioning and Refrigeration

The HVACR Sector in Scotland

The HVACR sector embraces technical operations and projects relevant to the installation, servicing and maintenance, in industrial and commercial properties, of:

- Heating
- Ventilation
- Ductwork
- Air conditioning
- Refrigeration
- Heat recovery
- Energy management
- Hot and cold-water systems
- Fire prevention and protection
- Pipework service and maintenance

Directly associated with these operations and projects are occupation areas which are specific to the HVACR sector where the key ones are:

- Installing, maintaining and servicing heating and ventilation systems
- Commissioning heating and ventilation systems
- Installing and commissioning ductwork and pipework systems
- Installing, maintaining and commissioning air conditioning systems
- Installing, maintaining and commissioning refrigeration systems

The industry is increasingly carrying out a wider range of tasks and projects, which include:

- Principal contractors on construction engineering projects such as shopping and entertainment complexes, sports stadiums, hospitals, hotels and office blocks
- Controlled building management systems – heating; air conditioning; refrigeration; environmental control
- Complex installations in buildings and structures for commercial, industrial, recreational and transport purposes
- Design, construction, installation and maintenance of building services for complex industrial manufacturing and processing

The Modern Apprentice will be employed and undertake a job role and a relevant vocational education & training programme compatible to the occupation/job role of their choice.

Summary of Framework

Expected Duration

Apprenticeship Route	Duration
Heating and Ventilating: Ductwork Planning and Installation	3 years
Heating and Ventilating: Industrial and Commercial Installation	4 years
Install, Commission and Maintain Air Conditioning Systems	3 years
Install, Commission and Maintain Refrigeration Systems	3 years

Mandatory outcomes

SVQ or alternative competency based qualification

- One of the following must be achieved:

- SVQ in Heating and Ventilating: Ductwork Planning and Installation at SCQF level 6 - GR58 23 or (GK9H 23 (expiry 31/01/21))
- SVQ in Heating and Ventilating: Industrial and Commercial Installation at SCQF level 6-GR59 23 or (GK9J 23 (expiry 31/01/21))
- SVQ in Install, Commission and Maintain Air Conditioning Systems at SCQF level 6 - GR5C 23 or (GK9K 23 (expiry 31/01/21))
- SVQ in Install, Commission and Maintain Refrigeration Systems at SCQF level 6 - GR5A 23 or (GK9L 23 (expiry 31/01/21))

Core Skills

- Communication at SCQF Level 5
- Working With Others at SCQF Level 5
- Problem Solving at SCQF Level 5
- Information and Communication Technology at SCQF Level 5
- Numeracy at SCQF Level 5

Enhancements

Certificate	Standard or equivalent	Heating & Ventilation	Ductwork	Refrigeration	Air Conditioning	Note
Brazing	BESA			M	M	
CO2	AB			M		
F Gas	DEFRA			M	M	
Gas Safety Assessment	EUSkills	M				1
Unit FX8J 04	AB	M	M	M	M	2
Heat Pumps Install	AB	M	O	M	M	
Heat Pumps Service and Maintain	AB		O	O	O	
Unit H9LN 04	AB		O			3
Welding	BESCA	M				4
Unvented Hot water	BPEC	O				5
Flammable Refrigerants	BESA			M	M	6
Oil	OFTEC	O				7

Notes (General)

- M is Mandatory and O is Optional
- AB is Awarding Body

Notes (Specific)

1. Gas Safety Assessment (limited scope) is designed for operatives who will be installing commercial pipework >35mm for the purpose of transporting gas. Unit references (commonly used in sector) are ICPN1 and ICPN1LS
2. F8XJ 04 is the Unit on Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies
3. H9LN 04 is the Unit on Clean industrial and commercial ventilation systems
4. BESCA’s welding test centre certification scheme delivers a quality assurance system to ensure a consistent and safe approach to administering the pipe welding test, moderating test centres across the UK against TR5 the Code of Good Practice: Welding of Carbon Steel Pipework.
5. The Building Regulations Approved Document (Part J in Scotland) requires an unvented hot water cylinder to be installed and maintained by a competent person. This qualification, known as an Unvented Hot Water qualification, provides individuals with the knowledge & skills needed to work with such systems.
6. The flammable refrigerants certificate is the Flammable Refrigerants (Classification A2L, A2 and A3)
7. The oil certificate is the Installation and Maintenance of Oil Fired Heating Equipment

Optional Outcomes

Additional SVQ Units/Qualifications/Training

See Enhancements.

The Framework

Expected Duration

Apprenticeship Route	Duration
Heating and Ventilating: Ductwork Planning and Installation	3 years
Heating and Ventilating: Industrial and Commercial Installation	4 years
Install, Commission and Maintain Air Conditioning Systems	3 years
Install, Commission and Maintain Refrigeration Systems	3 years

Mandatory Outcomes

SVQ(s)/ CBQs

Each apprentice is required to achieve one of the following Qualifications:

- SVQ in Heating and Ventilating: Ductwork Planning and Installation at SCQF level 6 - GR58 23 or (GK9H 23 (expiry 31/01/21))
- SVQ in Heating and Ventilating: Industrial and Commercial Installation at SCQF level 6 -GR59 23 or (GK9J 23 (expiry 31/01/21))
- SVQ in Install, Commission and Maintain Air Conditioning Systems at SCQF level 6 - GR5C 23 or (GK9K 23 (expiry 31/01/21))
- SVQ in Install, Commission and Maintain Refrigeration Systems at SCQF level 6 - GR5A 23 or (GK9L 23 (expiry 31/01/21))

All Scottish Modern Apprenticeships must contain a relevant Scottish Vocational Qualifications (SVQs) or Competency Based Qualifications (CBQs). SVQs and CBQs are work-based qualifications based on National Occupational Standards of competence drawn up by representatives from each industry sector. They are made up of units – normally between six and ten – which break a job down into separate functions reflecting the different kind of activities of a job. SVQs and CBQs are available at a range of levels – although most are at SCQF Levels 5, 6 and 7 (SVQ Level 2 and 3). When someone has achieved an SVQ or CBQ, there is a guarantee that they have the skills and knowledge needed to do their job.

Core Skills

Each apprentice is required to achieve the following core skills:

Communication	SCQF level 5; 6 credit points
Working with others	SCQF level 5; 6 credit points
Problem Solving	SCQF level 5; 6 credit points
Information and Communication Technology	SCQF level 5; 6 credit points
Numeracy	SCQF level 5; 6 credit points

The Workplace Core Skills are embedded within the SVQ. No separate certification of these Core Skills is necessary.

Core Skills are skills and abilities which everyone needs in their work. This is true for every job in every workplace. Core Skills also feature in National Qualifications such as Standard Grades and Highers and from 2000, Scottish candidates have been issued with a Core Skills profile on their Scottish Qualifications Certificate. Candidates who have already been certificated as achieving Core Skills at the levels given above – either in the workplace or at school or college - do not need to repeat these Core Skills as part of the Modern Apprenticeship Framework.

Enhancements

Enhancements						
Certificate	Standard or equivalent	Heating & Ventilation	Ductwork	Refrigeration	Air Conditioning	Note
Brazing	BESA			M	M	
CO2	AB			M		
F Gas	DEFRA			M	M	
Gas Safety Assessment	EUSkills	M				1
Unit FX8J 04	AB	M	M	M	M	2
Heat Pumps Install	AB	M	O	M	M	
Heat Pumps Service and Maintain	AB		O	O	O	
Unit H9LN 04	AB		O			3
Welding	BESCA	M				4
Unvented Hot water	BPEC	O				5
Flammable Refrigerants	BESA			M	M	6
Oil	OFTEC	O				7

Notes (General)

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Notes (Specific)

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6. The flammable refrigerants certificate is the Flammable Refrigerants (Classification A2L, A2 and A3)
7. The oil certificate is the Installation and Maintenance of Oil Fired Heating Equipment

Optional Outcomes

See Enhancements

Registration and certification

This Scottish Modern Apprenticeship is managed by BSE Skills Ltd. The administrative functions of Registration and Certification are carried out by Instructus. BSE Skills Ltd is the first point of contact in Scotland for any enquiries in relation to the Framework. Contact details:

BESA
Walled Garden
Bush Estate
Midlothian
EH26 0SD

Tel: 0131 445 5900
Website: <https://www.thebesa.com/>

All Modern Apprentices must be registered with the BSE Skills Ltd, via Instructus and MA Online, within 4 weeks of starting their apprenticeship.

In the case of MAs which receive funding it is acceptable for the Skills Development Scotland Training Plan to be used on the condition that it includes all relevant information as set out in the MA Training Plan.

Instructus will issue a Modern Apprenticeship Certificate of Completion to those Modern Apprentices who have completed the mandatory outcomes of the Framework. Before a certificate is issued, training providers must submit evidence that the mandatory outcomes have been achieved. This will normally be in the form of photocopies of certificates from awarding bodies.

Requests for registration and certification should be made to BSE Skills Ltd at the address above.

Instructus Service level

Instructus undertakes to confirm the registration of candidates in writing within 4 weeks of receipt of the relevant Training Plan and Training Agreement. Each candidate will be issued with a unique registration number.

Instructus also undertakes to issue Certificates of Completion within 4 weeks of receipt of the appropriate evidence that a candidate has completed the outcomes as stated in the Training Plan.

Recruitment and selection

The recruitment and selection of Modern Apprentices is primarily the responsibility of the employer. However, the following guidance is given:

- Employees may enter a Modern Apprenticeship from the age of 16. There is no upper age limit.
- Applicants should have, or expect to achieve a National 4 in Maths, English, one science and a technical subject. For service and maintenance apprenticeship National 5 level awards and/or Highers are preferred
- All applicants are required to pass the BESA Aptitude Test. This test can be undertaken online or in a classroom-type environment. All Aptitude Tests are undertaken in exam conditions administered by BESA. These tests are available across Scotland.
- The Modern Apprenticeship is designed to attract high quality people to the industry. Achievement of academic qualifications is one way of assessing the suitability of applicants. However it should be stressed that no persons should be deterred from applying for a Modern Apprenticeship because of a lack of formal educational qualifications. As well as traditional qualifications such as Standard Grades and Highers, employers should also be aware of newer vocational qualifications or vocational activity undertaken outwith an academic institution, such as volunteering activity.
- The following factors may also influence the selection process:
 - performance during a formal interview process
 - references
 - relevant work experience
 - trial observation period.
- Employers should be aware of the nature, relevance and quality of foreign qualifications and make appropriate allowances concerning entry requirements.
- In order to promote and maintain the high status of the Modern Apprenticeship within the industry all literature distributed for recruitment purposes should emphasise the high standards of achievement expected of the candidate.
- Employers may wish to contact BESA for advice and guidance on recruitment and selection.

Equal opportunities

Modern Apprenticeships should ensure that there is equality of opportunity for all and any barriers (real or perceived) are addressed to support anyone seeking to enter employment to undertake the Modern Apprenticeship.

All MAs supported by Skills Development Scotland must conform to any contractual requirements on equal opportunities. All employers of Modern Apprentices should have an Equal Opportunities policy statement.

Health and Safety

All aspects of health and safety at work must be recognised within the delivery of this Modern Apprenticeship Framework and all statutory requirements be adhered to. It is a key aspect of the induction period of the Modern Apprenticeship that apprentices are fully informed both of the regulations and that they and their employers are bound by these regulations. Modern Apprentices should be made aware of their rights and duties with regard to health and safety.

All Modern Apprentices supported by Skills Development Scotland will be required to satisfy the adequacy of SDS's Health and Safety policy and systems.

Contracts

The following three contracts are essential to the successful outcome of the Modern Apprenticeship programme:

1. Contract of employment signed by the employer and the Modern Apprentice.

2. Training Agreement - this outlines the basis of the modern apprenticeship, refers to the contract of employment and includes Health and Safety responsibilities. A sample Training Agreement is set out in Appendix 3.
3. Training Plan - this outlines the selected outcomes and the expected duration of the apprenticeship. In cases where funding is offered by SDS, the SDS Training Plan will be sufficient on condition that it contains all relevant information as set out in the Sample Training Plan at Appendix 3. Training Plans may be modified to reflect changing circumstances; however it is essential that BSE Skills Ltd is notified of any changes.

Employment status of Modern Apprentices

It is important that the sector offers genuine employment and career prospects to those people it wishes to attract through Modern Apprenticeships. Accordingly, **all apprentices must be employed.**

All Modern Apprentices must have a demonstrable need to acquire **significant new knowledge and skills** to fulfil their job role. The modern apprenticeship framework selected for the employee must be the most appropriate learning programme generally available to that individual, providing such knowledge and skills.

Terms and conditions of employment

In order to compete with other sectors offering Modern Apprenticeships, attractive packages will need to be developed by employers in the sector. The terms and conditions of employment for individual Modern Apprentices will be agreed between the employer and the apprentice and should form the contract of employment.

Training and development

Delivery

Training delivery can take many forms under the Modern Apprenticeship system. Some organisations may become approved SVQ Assessment Centres; others may join a consortium or use peripatetic assessors. Some large employers will be able to complete all the training and development in-house, but most employers will find that some of the training and development will have to take place away from the normal workplace. In particular the underpinning knowledge requirements are often more suited to delivery by outside training providers which might include:

- private training organisations
- colleges / universities
- other employers

Such knowledge could be delivered through training courses or through open/distance learning packages.

The option of sharing training and assessment resources amongst a cluster of employers (or across the divisions of a larger employer) will be particularly appealing to those firms which do not have the resources to provide all of the training and development. Assessment can be provided by these bodies, but the assessors and the training centre must be approved by the awarding bodies for the SVQ and Core Skills where appropriate.

List of Training Providers

BESA acts as the the managing agent for delivery of the MA in Scotland. Current approved centres:

- Glasgow Kelvin College
- Edinburgh College
- Forth Valley College

Delivery of Training for the Modern Apprenticeship in Heating, Ventilation, Air Conditioning and Refrigeration

Overview

HVACR Apprenticeships are a combination of work-based training and college education, giving candidates the opportunity to earn while they learn. Over the course of an apprenticeship, candidates will work to achieve an SVQ, Core Skills accreditation and a Modern Apprenticeship Certificate.

Apprenticeships in Scotland take a minimum of three years to complete, depending on the course. On completion, apprentices will have achieved an SVQ level 3 and a MA certificate. Applicants should have, or expect to achieve a National 4 in Maths, English, one science and a technical subject.

Work-based training

Delivery and assessment method

- *how is training delivered and assessed in the workplace?*

- Delivered via portfolio of tasks/activities. Assessed by approved/qualified assessors.

Skills required by training providers delivering the training

- *list any skills and qualifications required*

- The vocational skills relevant to the qualification being delivered/assessed.

Delivery of underpinning knowledge (if no formal off-the job requirement)

- *how do apprentices develop knowledge and understanding if there is no formal certification of underpinning knowledge*

- N/a

Off-the-job training

Details of off-the-job training (please state if not applicable)

- *What is required to complement the workbased component? Does it lead to a formal recognised award (e.g. and Awarding Body or Vendor award?*

- Underpinning knowledge required to support claim for competence in all aspects of training. There is no formal award for this.

Delivery and assessment method

- *How is training delivered and assessed off-the-job? How long does it take to achieve the award?*

- Delivery and assessment through approved centre plus additional assessments and tests. The Assessment Strategy for the SVQs sets out when simulation can be used.

Exemptions

- Are any groups exempt from completing the off-the-job component? (e.g. older workforce with the required knowledge as demonstrated through RPL/ APL)

- Experienced Workers go through APL.

The training plan

The plan is required to identify:

- 1 The selected Framework outcomes, specifying whether or not separate certification of the Core Skills is being sought.
- 2 A summary of the Modern Apprentices accredited prior learning
- 3 A timetable for achievement of the selected Framework outcomes, linked to regular progress reviews.

The Training Plan should take into account any relevant previous training and development, education or work experience. Not all Modern Apprentices need have different plans, but many will vary. Moreover as reviews take place and circumstances change so the plan itself can be modified.

However any changes must:

- be subject to the quality provisions of Skills Development Scotland (if the MA is being financially supported)
- comply with the stipulations of this Framework
- meet the needs of the employer and apprentice.

A sample Training Plan is provided at Appendix 3 of this document, however, for those Modern Apprentices funded by SDS area office it is sufficient to submit the Skills Development Scotland Training Plan on condition that it covers the same information required in the MA Training Plan.

Consultation Process

The consultation process including a range of face to face meetings with employers, providers and stakeholders supported by an e-consultation opportunity. The meetings included:

Date	Description
25.09	FM Forum (UK)
1.1	Refcom
22.1	BESA Providers @ Alloa
23.1	LA Forum
29.1	H&V Forum @ Glenrothes
5.11	H&S/Technical Forum
7.11	Education & Skills Partnership (UK)
8.11	Provider workshop
12.11	Apprentice Forum
14.11	Technical Group

Feedback was received from:

- A total of 102 different people some of whom contributed across a number of different platforms
- 58 HVACR companies from across Scotland (the majority of which employ between 1 and 50 people)
- 7 training providers from across Scotland (most of which were FE colleges)
- 5 representatives from BESA including those responsible for engagement with employers and providers and apprentices
- Other key stakeholders including SQA and SDS and Unite the Union

For details of those who contributed to this consultation, in accordance with GDPR, please contact BESA.

Career progression

It is anticipated that successful candidates will progress within the HVACR sector in qualified positions in employment or self-employment in technical/supervisory/management positions in such roles as:

- Building Services Engineering Technician
- Designer/Estimator
- Project Manager
- Site/Workshop Manager
- Sales Engineer/Commercial Manager

Continuous learning will be expected of the qualified candidates in order to maintain awareness of the regulations impacting on the industry and technological changes/advances. Modern Apprentices can also choose to get further qualifications which could lead to membership of a professional body and a career in HVACR e.g. undertake an HNC/HND, a SVQ Level 4, or study for a degree.

Appendices

APPENDIX 1

Stakeholder Responsibilities

Many organisations and individuals share the responsibility for ensuring that the Modern Apprenticeship programme is implemented to the highest possible standard. They include:

- * Awarding Bodies
- * BSE Skills Ltd
- * Employers
- * Instructus
- * Modern Apprentices
- * Modern Apprenticeship Group (MAG)
- * Skills Development Scotland
- * Training Providers

Role of BSE Skills Ltd

BSE Skills Ltd is responsible for developing Modern Apprenticeship Frameworks for the HVACR industry and is required to work with employers to ensure that the Frameworks meet the needs of those employers.

Role of Instructus

Instructus is responsible for the registration and final certification of the Modern Apprentice.

Role of Skills Development Scotland (SDS)

MA frameworks are used by employers as part of their workforce development to train new employees and up-skill existing members of staff. They can be (and often are) used regardless of whether financial support is available from the delivery body who currently provides a 'contribution' towards the cost of delivery. However, only approved MA Frameworks will be eligible for funding support from Skills Development Scotland who should be contacted to establish the availability and level of support for each MA Framework.

Further information is available from: <http://www.skillsdevelopmentscotland.co.uk/our-services/modern-apprenticeships.aspx>

SDS provides advice and guidance to individuals on the range of Modern Apprenticeships and training providers available. Individuals are signposted to opportunity providers who offer training in the vocational areas of interest.

Responsibilities include:

- Supporting the Modern Apprentice with ongoing Career Planning advice
- Signposting candidates to suitable vacancies
- Promoting the Modern Apprenticeship route on the Skills Development Scotland website
- Facilitating recruitment events that bring together jobseekers and opportunity providers

Role of the Awarding Bodies

A significant proportion of the Modern Apprenticeship is based on the assessment of the apprentice against SVQs/ CBQs or SVQ/ CBQ units. These qualifications are accredited by the SQA Accreditation and the Office of the Qualifications and Examinations Regulator (Ofqual) and are offered by Awarding Bodies.

It is the responsibility of the Awarding Bodies to ensure that centres are approved, that assessors and verifiers are suitably qualified, trained and monitored, and that all of the assessment criteria of the SVQs/ CBQs and SVQ/CBQ units are fully met.

Role of the Training Provider

The role of the training provider is important to the success of the Modern Apprenticeship. A training provider can be a further education college, a private or voluntary training company or in some cases the employer themselves or employer partnerships.

Training Providers are responsible for:

- Confirming an appropriate MA programme for candidates
- Agreeing the training needs of the candidates
- Agreeing roles and responsibilities for on the job training
- Agreeing where off the job training will be required and defining roles and responsibilities for this with relevant parties
- Ensuring trainee/candidate has access to the best quality training opportunities available
- Ensuring that the Modern Apprentices and employers fully understand the principles and processes of competence-based assessment
- Registering of MA candidates with the relevant body (and Skills Development Scotland if appropriate).
- Compiling and agreeing assessment schedules/assessment plans
- Judging performance evidence
- Completing assessment records
- Reviewing candidates progress at regular intervals
- Submitting records and evidence for moderation
- Advising the Modern Apprentice who to approach for support, advice, encouragement and in case of complaint

Role of the Modern Apprenticeship Group (MAG)

MAG is an independent group drawn from key stakeholders involved in the management and delivery of the Apprenticeship programme in Scotland.

MAG is responsible for:

- Approval and re-approval of Modern Apprenticeship Frameworks
- De-approval of Modern Apprenticeship Frameworks
- Encouraging best practice across Modern Apprenticeship Frameworks and sectors

Role of the Employer

Employers' responsibilities include:

- Paying all Modern Apprentices in accordance with company policy and in line with current legislation
- Agreeing roles and responsibilities for on the job training
- Agreeing where off the job training will be required and define roles and responsibilities for this with relevant parties
- Highlighting opportunities for the Modern Apprentice to demonstrate competence
- Meeting with Trainers, Assessors, Verifiers and the Modern Apprentices to review progress
- Witnessing candidate performance and verifying evidence
- Releasing Modern Apprentices for college/off-the-job training in line with training plan
- Ensuring the experience, facilities and training necessary to achieve the outcomes of the training plan.
- Supporting and encouraging Modern Apprentices and rewarding achievement
- Taking responsibility for the Health & Safety of Modern Apprentices.

Role of the Modern Apprentice

Modern Apprentices have the same responsibilities to their employer as any other employee. In addition they have a range of commitments to their training programme.

Modern Apprentices' responsibilities include:

- Observing the company's terms and conditions of employment
- Agreeing a training/development plan with all parties involved
- Undertaking development in line with agreed training plan
- Attending meetings with trainers, assessors and verifiers as required
- Attending college/off-the-job training where required
- Providing evidence of competence
- Developing a collection of evidence (portfolio) and retain ownership of this throughout
- Behaving in a professional manner throughout

APPENDIX 2

Modern Apprenticeship Centres (MACs)

Modern Apprentices may only be registered through organisations approved by SSC/O to deliver this Framework. Such approved organisations are called Modern Apprenticeship Centres (MACs)

The MAC may be the employer of the apprentice or a separate organisation such as a training provider, further education college, a private or voluntary training company or in some cases the employer themselves or employer partnerships.

In order to be approved, organisations must make a formal application to BSE Skills Ltd, seeking approval and establishing that the centre satisfies the following criteria:

Either

- 1 be approved by an appropriate Awarding Body as a centre for the assessment of the relevant SVQ/ CBQ (and Core Skills if these are being separately certificated)

or

- 2 be capable of demonstrating a contractual relationship with another approved centre for the assessment of those units for which the MAC does not have approval from an appropriate Awarding Body.

In addition

BESA will maintain a database of MACs for the delivery of the Framework within Scotland, which will be available to employers and others.

Organisations wishing to become MACs who have yet to obtain the necessary Awarding Body approval for assessment should first contact the Awarding Body direct.

Organisations wishing to be accredited with Skills Development Scotland Quality Assessment (or other appropriate quality system) should contact Skills Development Scotland.

In addition to the assessment of the Modern Apprentice against the relevant standards set by the selected Framework outcomes, the MAC has responsibility for:

- Entering into a formal training agreement with the employer and Modern Apprentice
- Registering Modern Apprentices as candidates for the relevant SVQ/ CBQ (s) and other selected units with the appropriate Awarding Body
- Registering Modern Apprentices with BSE Skills Ltd (through Instructus)
- Applying for the final 'Certificate of Completion' on behalf of Modern Apprentices
- Informing BSE Skills Ltd of any material alterations to Modern Apprentices' training plans or desired changes to the selected Framework outcomes.

APPENDIX 3



MODERN APPRENTICESHIP SAMPLE TRAINING AGREEMENT

This Training Agreement is entered into by:

Name of Employer:	
Name of Modern Apprentice:	
Name of Modern Apprenticeship Centre:	

The **Employer’s responsibilities** are to:

- 1 employ the modern apprentice subject to the employer’s usual terms and conditions of employment;
- 2 provide the modern apprentice with the facilities, training and work place opportunities necessary to achieve the selected Framework outcomes specified in the apprentice’s personal training plan;
- 3 pay the modern apprentice an agreed salary which reflects the obligations of the employer and the opportunities for the apprentice;
- 4 in the event of the employer becoming unable to retain the modern apprentice after completion of the apprenticeship, to use reasonable endeavours to secure employment elsewhere;
- 5 in the event of the apprenticeship being terminated prematurely by either the employer or modern apprentice for any reason other than dismissal for unsatisfactory performance or misconduct, to use reasonable endeavours to secure employment and continuation of this apprenticeship elsewhere;
- 6 operate a formal Health and Safety policy and undertake the necessary legal and contractual responsibilities for health and safety of the modern apprentice; and
- 7 operate an Equal Opportunities policy which meets all legal requirements.

The **Modern Apprentice’s responsibilities** are to:

- 1 work for the employer in accordance with the agreed terms and conditions of employment;
- 2 undertake training, attend courses if required, keep records, and take assessments to be determined by the employer and/or Modern Apprenticeship Centre, and carry out such work as may be required in order to achieve the selected Framework outcomes specified in the apprentice’s personal training plan;
- 3 be diligent, punctual, behave in a responsible manner and in accordance with the requirements of Health and Safety legislation relating to the apprentice’s responsibilities as an individual; and
- 4 promote at all times the employer’s best interests.

The **Modern Apprenticeship Centre’s responsibilities** are to:

- 1 agree the content of the modern apprentice’s personal training plan as confirming that the selected Framework outcomes and training plans meet the criteria of this modern apprenticeship
- 2 contract with the employer to provide the training and assessment necessary to enable the modern apprentice to achieve the selected Framework outcomes specified in the apprentice’s personal training plan; and
- 3 use its best endeavours to ensure that the employer provides the modern apprentice with the facilities, training and work place opportunities necessary to achieve the selected Framework outcomes specified in the apprentice’s personal training plan.

This agreement to be signed by all parties:

Employer		Date:
Modern Apprentice		Date:
Modern Apprenticeship Centre		Date:



MODERN APPRENTICESHIP TRAINING PLAN

The Modern Apprenticeship Centre

Name:
Address:
Telephone:
Contact:

The Modern Apprentice

Full name:
Home address:
Work address:
Date of birth:

The Employer

Name:
Address:
Telephone:
Contact:

Skills Development Scotland office

Name:
Address:
Telephone:
Contact:

Framework selected outcomes**Mandatory outcomes**

Candidates will follow one of the following 5 award routes:

SVQ in Heating and Ventilating: Ductwork Planning and Installation at SCQF Level 6 – Mandatory units		Tick units being undertaken	SCQF Level	SCQF Credit Points
BSEBSE01	Apply health and safety and environmental legislation in the building services engineering sector	Y	6	44
BSEBSE02	Establish and maintain relationships in the building services engineering sector	Y	6	16
BSEBSE03	Coordinate a work site in the building services engineering sector	Y	6	16
BSEBSE04	Perform electrical work on mechanical building services systems	Y	7	28
BSEHV05	Install and test industrial and commercial heating and ventilating ductwork systems	Y	6	74
BSEHV06	Inspect and pre-commission industrial and commercial heating and ventilating systems	Y	6	38
BSEHV07	Commission industrial and commercial heating and ventilating systems	Y	7	32
BSEHV08	Decommission industrial and commercial heating and ventilating systems	Y	6	31
BSEHV11	Clean industrial and commercial ventilation systems	Y	6	21

SVQ Heating and Ventilating: Industrial and Commercial Installation at SCQF Level 6 – Mandatory units		Tick units being undertaken	SCQF Level	SCQF Credit Points
BSEBSE01	Apply health and safety and environmental legislation in the building services engineering sector	Y	6	44
BSEBSE02	Establish and maintain relationships in the building services engineering sector	Y	6	16
BSEBSE03	Coordinate a work site in the building services engineering sector	Y	6	16
BSEBSE04	Perform electrical work on mechanical building services systems	Y	7	28
BSEHV04	Install and test industrial and commercial heating and ventilating pipework systems	Y	6	66
BSEHV06	Inspect and pre-commission industrial and commercial heating and ventilating systems	Y	6	38
BSEHV07	Commission industrial and commercial heating and ventilating systems	Y	7	32
BSEHV08	Decommission industrial and commercial heating and ventilating systems	Y	6	31
BSEHV10	Weld industrial and commercial heating and ventilating pipework	Y	6	28
FCAHVICI	FCA.H&V Industrial and Commercial Installation	y	6	10

SVQ Level 3 Install, Commission and Maintain Refrigeration Systems at SCQF Level 6 – Mandatory units		Tick units being undertaken	SCQF Level	SCQF Credit Points
BSEBSE01	Apply health and safety and environmental legislation in the building services engineering sector	Y	6	44
BSEBSE02	Establish and maintain relationships in the building services engineering sector	Y	6	16
BSEBSE03	Coordinate a work site in the building services engineering sector	Y	6	16
BSEBSE04	Perform electrical work on mechanical building services systems	Y	7	28
BSERAC04	Install refrigeration systems	Y	6	61
BSERAC05	Service and maintain refrigeration systems	Y	7	59
BSERAC06	Decommission refrigeration systems	Y	6	35
BSERAC07	Commission refrigeration systems	Y	7	35
FCAICMRS	FCA.Install, Commission and Maintain Refrigeration Systems	Y	6	10

SVQ Level 3 Install, Commission and Maintain Air Conditioning Systems at SCQF Level 6 – Mandatory units		Tick units being undertaken	SCQF Level	SCQF Credit Points
BSEBSE01	Apply health and safety and environmental legislation in the building services engineering sector	Y	6	44
BSEBSE02	Establish and maintain relationships in the building services engineering sector	Y	6	16
BSEBSE03	Coordinate a work site in the building services engineering sector	Y	6	16
BSEBSE04	Perform electrical work on mechanical building services systems	Y	7	28
BSERAC08	Install air conditioning and heat pump systems	Y	6	61
BSERAC09	Service and maintain air conditioning and heat pump systems	Y	7	59
BSERAC10	Decommission air conditioning and heat pump systems	Y	6	35
BSERAC11	Commission air conditioning and heat pump systems	Y	7	35
FCAICMACS	FCA.Install, Commission and Maintain AC Systems	Y	6	10

Enhancements

Certificate	Standard or equivalent	Heating & Ventilation	Ductwork	Refrigeration	Air Conditioning	Note
Brazing	BESA			M	M	
CO2	BESA			M		
F Gas	DEFRA			M	M	
Gas Safety Assessment	EUSkills	M				1
Unit F8XJ 04	AB	M	M	M	M	2
Unit F8XM 04	AB	M	O	M	M	3
Unit F8XR 04	AB		O	O	O	4
Unit H9LN 04	AB		O			5
Welding	BESCA	M				6
Unvented Hot water	BPEC	O				7
Flammable Refrigerants	BESA			M	M	8
Oil	OFTEC	O				9

Notes (General)

- M is Mandatory and O is Optional
- AB is Awarding Body

Notes (Specific)

1. Gas Safety Assessment (limited scope) is designed for operatives who will be installing commercial pipework >35mm for the purpose of transporting gas. Unit references (commonly used in sector) are ICPN1 and ICPN1LS
2. F8XJ 04 is the Unit on Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies
3. F8XM 04 is the Unit on Install, Test, Commission and Handover Heat Pump System
4. F8XR 04 is the Unit on Inspect, Service and Maintenance Heat Pump Systems requires completion
5. H9LN 04 is the Unit on Clean industrial and commercial ventilation systems
6. BESCA's welding test centre certification scheme delivers a quality assurance system to ensure a consistent and safe approach to administering the pipe welding test, moderating test centres across the UK against TR5 the Code of Good Practice: Welding of Carbon Steel Pipework.
7. The Building Regulations Approved Document (Part J in Scotland) requires an unvented hot water cylinder to be installed and maintained by a competent person. This qualification, known as an Unvented Hot Water qualification, provides individuals with the knowledge & skills needed to work with such systems.
8. The flammable refrigerants certificate is the Flammable Refrigerants (Classification A2L, A2 and A3)
9. The oil certificate is the Installation and Maintenance of Oil Fired Heating Equipment

Core Skills

Core Skills <i>(Include details of the minimum level required)</i>		Tick units being undertaken	SCQF Level	SCQF Credit Points
1	Communication		5	6
2	Working with others		5	6
3	Numeracy		5	6
4	Information and Communication Technology		5	6
5	Problem Solving		5	6

Summary of Modern Apprentice's accredited prior learning:

APL applies only to Experienced Worker. Contact BESA for details.

If you require assistance in completing this form, please contact:

BESA
Walled Garden
Bush Estate
Midlothian
EH26 0SD

Tel: 0131 445 5900

Website: <https://www.thebesa.com/>