



National Unit specification:

General information

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

Unit code: HF2G 45

Superclass: TH

Publication date: June 2016

Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This Unit is suitable for Learners with little or no previous engineering, technical or employment experience. Learners will identify basic tools and materials associated with the Service and Maintenance of Building Services Appliances. Learners will also be able to identify Service and Maintenance requirements and working principles of Building Services Appliances.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Identify basic tools, materials and components associated with the Service and Maintenance of Building Services Appliances.
- 2 Identify Service and Maintenance requirements and working principles of Building Services Appliances.

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5)

Recommended entry to the Unit

Entry is at the discretion of the centre.

National Unit specification: General information (cont)

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

National Unit specification: Statement of standards

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF Level 5)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Identify basic tools, materials and components associated with the Service and Maintenance of Building Services Appliances.

Performance Criteria

- (a) Identify basic tools associated with the Service and Maintenance of Building Services Appliances
- (b) Identify basic materials and components associated the Service and Maintenance of Building Services Appliances

Outcome 2

Identify Service and Maintenance requirements and working principles of Building Services Appliances.

Performance Criteria

- (a) Identify all relevant requirements for Service and Maintaining Building Services Appliances
- (b) Identify working principles of Building Services Appliances

Evidence Requirements for this Unit

Evidence is required to demonstrate that the candidate has achieved all Outcomes and Performance Criteria.

The evidence may be produced by one or more than one assessment covering Outcomes 1–2.

Written and/or oral evidence should be produced for Outcomes 1–2 to demonstrate that the candidate has achieved all the Outcomes and Performance Criteria. The evidence should be produced in open-book supervised and controlled conditions.

National Unit specification: Statement of standards (cont)

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

In terms of the specific Outcomes of this Unit:

Outcome 1

Learners must be able to identify basic tools, materials and components associated with the Service and Maintenance of Building Services Appliances.

- ◆ Adjustable spanner
- ◆ Hand stocks and dies for threading steel pipe
- ◆ Screwdriver (crosshead and flat)
- ◆ Spirit level
- ◆ Stillson pattern pipe wrench
- ◆ Tape measure
- ◆ Digital multimeter
- ◆ Test lamps
- ◆ U-gauge/manometer
- ◆ Rotating vane anemometer
- ◆ Flow cup
- ◆ Temperature detector
- ◆ Fixing devices, ie screws
- ◆ Pipe
- ◆ Tees, elbows, unions, isolation, drain off, and air vents
- ◆ Electrical cable
- ◆ Ductwork
- ◆ Thermostats
- ◆ Pressure switches

Outcome 2

Learners must be able to identify Service and Maintenance requirements of Building Services Appliances.

Learners must complete work in a minimum of two types of Building Services Appliances which include the following areas:

- ◆ Boilers
- ◆ Pumps
- ◆ Fans
- ◆ Air Handling Plant
- ◆ Heat Emitters
- ◆ Hot and Cold Water Systems
- ◆ Controls

Learners must leave the work area in a safe condition after completion of tasks and do all of the following: ensure the area is left clean and tidy; dispose of any waste materials; return excess materials; return tools and equipment.



National Unit Support Notes

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

The content and context of this Unit is at a basic, introductory but industrially meaningful level. The main purpose of the Unit is to make Learners aware of, and prepare for employment within the building services engineering industry.

Outcome 1 ensures that the candidate develops an understanding of the range of hand tools, materials and components likely to be required when undertaking, or preparing to undertake, basic service and maintenance operations.

Outcome 2 ensures that the candidate develops an understanding of the practical aspects of service and maintenance of Building Services Appliances.

Guidance on approaches to delivery of this Unit

Learners should be given opportunities to work towards Outcomes in an integrated way whenever possible.

Practical activities should be teacher/lecturer-led in that all equipment, techniques and processes should be explained, demonstrated and thoroughly understood before (candidate) commencement. Demonstrations should be clear, logically sequenced and reflect current safe working practices to ensure candidate understanding.

An integrated approach to learning and teaching across the Outcomes in this Unit, and relevant others, is suggested.

Guidance on approaches to assessment of this Unit

Centres may use the method of assessment which they consider to be most appropriate but are encouraged to use the Assessment Support Pack (ASP) developed centrally by SQA. It is expected that learners will have to demonstrate current knowledge and understanding of safe working practice and risk assessment methods, etc prior to being set the assessment tasks.

Knowledge and Understanding of the processes involved in Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5) should be assessed before any practical assignments are carried out by learners.

National Unit Support Notes (cont)

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

There may be opportunities to develop the following Core Skills if this Unit is delivered as part of a Group Award and is holistically assessed with practical Units.

- ◆ *Communications*
- ◆ *Working with Others*
- ◆ *Problem Solving*
- ◆ *Numeracy*
- ◆ *Information and Communication Technology (ICT)*

History of changes to Unit

Version	Description of change	Date

© Scottish Qualifications Authority 2016

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Business Development and Customer Support team, telephone 0303 333 0330.

General information for learners

Unit title: Building Services Engineering: Service and Maintenance of Building Services Appliances (SCQF level 5)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is designed to introduce you to skills required within the Building Services Engineering industry. The Unit will focus on Service and Maintenance of Building Services Appliances. Little or no experience is required of working in the industry.

Service and Maintenance of Building Services Appliances is integral and key to the industry therefore throughout the Unit emphasis will be placed where appropriate on the application of Service and Maintenance of Building Services Appliances.

There will be a series of training exercises followed by multi choice knowledge assessment.

Completion of the Unit will provide you with basic knowledge necessary to progress to more complex aspects of Building Services Engineering which in turn will further develop your skills and knowledge.

There may be opportunities to develop the following Core Skills if this Unit is delivered as part of a Group Award and is holistically assessed with practical Units.

- ◆ *Communications*
- ◆ *Working with Others*
- ◆ *Problem Solving*
- ◆ *Numeracy*
- ◆ *Information and Communication Technology (ICT)*