



National Unit specification: general information

Unit title: Building Services Engineering: Introduction to Safe Working Practices (SCQF level 4)

Unit code: FT85 10

Superclass: PL

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Version: 01

Summary

This is a mandatory unit of the Skills for Work Building Services Engineering award and is suitable for candidates with no previous engineering, technical or employment experience. The candidate will learn to identify the fundamental Health and Safety requirements of the building services engineering (BSE) sector and how to recognise and respond appropriately to common hazards and accidents in the BSE environment. Candidates will also learn safe working practices as they apply to the BSE sector.

Outcomes

- 1 Explain the basic health and safety requirements
- 2 Explain how to recognise and respond appropriately to common hazards and accidents
- 3 Demonstrate safe working practices

Recommended entry

Entry is at the discretion of the centre.

Credit points and level

1 National Unit credit at SCQF level 4 (6 SCQF credit points at SCQF level 4)

General information (cont)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes of this Unit specification.

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

National Unit specification: statement of standards

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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

Explain the basic Health and Safety requirements.

Performance Criteria

- (a) Explain the basic relevant health and safety legislation.
- (b) Explain the fundamental and relevant safe personal protection measures which may be required.
- (c) Explain the procedures and methods of working safely within the sector.

Outcome 2

Explain how to recognise and respond appropriately to common hazards and accidents.

Performance Criteria

- (a) Explain how to recognise and respond appropriately to hazardous situations.
- (b) Explain how to respond appropriately to the dangers presented by asbestos.
- (c) Explain how to recognise and respond appropriately to accidents that occur.

Outcome 3

Demonstrate safe working practices.

Performance Criteria

- (a) Apply manual handling techniques safely.
- (b) Use access equipment safely.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

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

Evidence should be produced for all Outcomes to demonstrate that the candidate has achieved all the Outcomes and Performance Criteria.

Outcome 1: Written and/or oral evidence

Candidates must explain basic relevant health and safety legislation as it applies to all of the following:

- ◆ Relevant person including clients (customers), employees, and employers (including employer representatives).
- ◆ Protective equipment including clothing protection (including high visibility), eye protection, foot protection, hand protection, head protection, and hearing protection.
- ◆ The types of equipment used to permit work at heights including ladders, mobile elevated work platforms, and step ladders.
- ◆ Common electrical dangers including faulty electrical equipment, signs of damaged or worn electrical cables (power tools and property hard wiring system), and trailing cables.
- ◆ Electrical tools and equipment on site including: battery powered supplies, 110 volt supplies, 230 volt supplies.
- ◆ Visual inspection of a power tool for safe condition including checking for a valid PAT test, and inspection for general condition.
- ◆ Range of types of heat producing equipment including blowpipes, control valves, flashback arrestors, gauges, hoses, and nozzles.
- ◆ Safe use of gas heating equipment including actions in the event of leakage, bottle location and position, and safe lighting and extinguishing procedure.

Outcome 2: Written and/or oral evidence

Candidates must be able to explain how to recognise and respond appropriately to common hazards and accidents in terms of all of the following:

- ◆ Types of general workplace hazards that may be encountered in the BSE workplace, including defective (unsafe) equipment, manual handling, site/work area cleanliness, slipping hazards, tripping hazards, and using equipment.
- ◆ Methods that can be used to prevent accidents or dangerous situations occurring during work activities, including fire fighting signs, hazard signs, mandatory signs, prohibition signs, safety notices, working practices, and personal responsibilities under health and safety.
- ◆ Hazardous substances including corrosive, harmful, irritant, and toxic.
- ◆ Situations where asbestos may be commonly found in the workplace, including asbestos cement materials, gutters, flues, tanks, coating materials (eg Artex), heat proofing materials, gaskets, boiler components, insulating material, sheeting materials, floors, roofs, walls within the building fabric.

National Unit specification: statement of standards (cont)

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- ◆ Actions that should be taken when an accident or emergency is discovered, including raising the alarm, the role of the emergency services and contact methods, and typical emergency evacuation procedures.
- ◆ Method for fighting small localised fires that can occur in the workplace, including method of use, selection of extinguisher by fire type, types of extinguisher, and when to avoid tackling fires.
- ◆ Procedures for dealing with minor/major injuries that can occur while working including CPR method, cuts, electric shock, minor burns, objects in the eye, placing the casualty in the recovery position, and removal from the supply.
- ◆ Importance of recording accidents and near misses at work including: statutory requirements for the reporting of accidents/serious occurrences; the details to be recorded on a simple accident/incident report form; the use of company accident books.

Outcome 3: Performance evidence

Candidates must be able to demonstrate that they can safely carry out all of the following:

- ◆ Manual handling of heavy and bulky items, including assist in a two-person lift, plan the lift, and safely move the load.
- ◆ Use of ladders and step ladders.

National Unit specification: support notes

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This part of the Unit specification is offered as guidance. The support notes 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 level. The main purpose of the Unit is to make candidates aware of, and prepare for employment within, the BSE sector in any of the main occupational areas of plumbing, electrical, heating and ventilating, and refrigeration and air conditioning.

Outcome 1 covers the aims of health and safety legislation in protecting the workforce and members of the public in the context of the BSE sector. The candidate will develop an understanding of the responsibilities of relevant persons under health and safety legislation and the purpose of, and application of protective equipment. The candidate will also develop an understanding of the situations where it may be necessary to work at height, the safety requirements for the types of equipment used to permit work at heights and the relevant safety checks required to be carried out on access equipment before it is used. The candidate will also develop an understanding of the common electrical dangers encountered on construction sites and in private dwellings; the methods of safely using electrical tools and equipment on site; how to conduct a visual inspection of a power tool for safe condition before use; the procedure that should be applied for tools and equipment that fail safety checks; as well as how to use bottle colours to identify the various types of gases used in pipe jointing processes. The candidate will also develop an understanding of:

- ◆ the range of types of heat producing equipment (and the associated dangers) and specifically how gas heating equipment is safely used
- ◆ the three elements of the fire triangle and how combustion takes place
- ◆ the method for fighting small localised fires that can occur in the workplace

Outcome 2 covers the types of general workplace hazards that may be encountered in the BSE workplace and the methods that can be used to prevent accidents or dangerous situations occurring during work activities. The candidate will develop an understanding of how legislation classifies hazardous substance, the general precautions necessary for working with commonly encountered substances in the BSE environment and the action to take should a hazardous situation occur while at work. The candidate will also develop an understanding of:

- ◆ the actions that should be taken when an accident or emergency is discovered
- ◆ the procedures for dealing with minor/major injuries that can occur while working
- ◆ the importance for recording accidents and near misses at work

Outcome 3 covers the manual handling of heavy and bulky items. The candidate will develop an understanding of the procedures for manually handling heavy and bulky items and how/why to carry out an assessment of a safe load that a person can lift through the application of safe kinetic lifting technique and the use of simple mechanical lifting aids such as a sack trolley. The candidate will demonstrate the safe and appropriate method of assembly and use of fundamental access equipment.

National Unit specification: support notes

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Guidance on learning and teaching approaches for this Unit

Candidates 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.

Opportunities for developing Core Skills

Throughout this Unit there may be opportunities for candidates to develop the Core Skills of *Communication*, *Problem Solving* and *Working with Others* at SCQF level 4. If the assessment is integrated with other Units from the Skills for Work Building Service Engineering Award such as Building Services Engineering Skills, and others, the candidate will benefit from practical experience how the Core Skills can be developed in the work place.

Guidance on approaches to assessment for this Unit

An integrated approach to assessment across the outcomes in this Unit is suggested. If this is being delivered as part of the Skills for Work award the use of holistic assessment with other applicable Units is suggested. In addition, the project-based approach may be used to gather evidence of candidate achievement. Centres may also wish to develop the employability skills of the candidates through role-play techniques where appropriate.

Assessment for this Unit with other Units within the award could be done through a practical task carried out in a working environment, or under role play conditions in addition to the terms of the specific outcomes of this Unit.

Outcome 1 and 2

It is recommended that candidates are assessed on their knowledge and understanding of the fundamental health and safety requirements of the BSE sector and how to recognise and respond to hazards and accidents. This could be done by using a questioning method such as restricted response/short answer questions. This will ensure that candidates have the knowledge and understanding of the fundamental health and safety requirements of the BSE sector. It is further recommended that the knowledge and understanding is assessed ahead of the candidates undertaking any practical work. It is also recommended that the questions used should sample across the PCs.

Outcome 3

A suitable instrument of assessment covering all Performance Criteria could be a practical exercise, undertaken in supervised and controlled conditions, where candidate achievement is recorded by means of an observation checklist completed by the teacher/lecturer.

National Unit specification: support notes (cont)

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Opportunities for the use of 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 e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date

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