



National Unit Specification: general information

UNIT Safe Working Practices (SCQF level 5)

CODE F5JL 11

SUMMARY

This Unit is intended for candidates with little or no prior knowledge of safe working practices but who wish to gain some knowledge of the principles and techniques used to minimize the risk of injury to persons in the working environment.

The aim of this Unit is to introduce candidates to the hazards of the workplace, including those specific to the electrical and electronic industries, and the methods of minimizing their risk to personnel. Candidates will be introduced to 'risk assessment' techniques and risk control measures.

This Unit may form part of a National Qualification Group Award or may be offered on a free-standing basis.

OUTCOMES

- 1 Carry out a risk assessment exercise.
- 2 Demonstrate the techniques used in controlling risks due to manual operations.
- 3 Describe control measures for minimising the risks due to toxic fumes in the workplace.
- 4 Communicate the procedures for dealing with electric shock and overheating of electrical systems.

Administrative Information

Superclass: XJ

Publication date: March 2009

Source: Scottish Qualifications Authority

Version: 01

© Scottish Qualifications Authority 2009

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 Customer Contact Centre, telephone 0845 279 1000.

National Unit Specification: general information (cont)

UNIT Safe Working Practices (SCQF level 5)

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following or equivalent:

- ◆ Standard Grade Mathematics — General Level
- ◆ Standard Grade Technology — General Level
- ◆ Standard Grade Science — General Level

CREDIT VALUE

1 credit at SCQF level 5 (6 SCQF credit points at SCQF level 5*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

CORE SKILLS

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

This Unit provides opportunities for candidates to develop aspects of the following Core Skills:

- ◆ Problem Solving (SCQF level 5)
- ◆ Communication (SCQF level 5)
- ◆ Working with Others (SCQF level 6)

These opportunities are highlighted in the Support Notes of this Unit Specification.

National Unit Specification: statement of standards

UNIT Safe Working Practices (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

Carry out a risk assessment exercise.

Performance Criteria

- (a) Describe correctly the terms 'hazard' and 'risk'.
- (b) Describe clearly the 'five-step' risk assessment procedure.
- (c) Describe clearly the need to implement risk control measures.
- (d) Carry out an effective risk assessment on a given working environment.

OUTCOME 2

Demonstrate the techniques used in controlling risks due to manual operations.

Performance Criteria

- (a) Describe clearly the dangers associated with manual handling operations.
- (b) Describe clearly the control methods in minimising the risks of lifting, pushing and pulling operations.
- (c) Demonstrate correctly the risk control techniques for lifting and stacking loads.
- (d) Describe clearly the dangers associated with working at height.
- (e) Describe clearly the control techniques in minimising the risks of working at height.
- (f) Demonstrate correctly the risk control techniques for safe working at height.

OUTCOME 3

Describe control measures for minimising the risks due to toxic fumes in the workplace.

Performance Criteria

- (a) Identify clearly the sources of toxic fume generation in the workplace.
- (b) Outline clearly the main requirements of the 'Control of Substances Hazardous to Health' (COSHH) regulations regarding toxic fumes.
- (c) Describe correctly the control measures for minimising the risks of toxic fumes in the workplace.

National Unit Specification: statement of standards (cont)

UNIT Safe Working Practices (SCQF level 5)

OUTCOME 4

Communicate the procedures for dealing with electric shock and overheating of electrical systems.

Performance Criteria

- (a) Describe clearly the dangers associated with electric shock.
- (b) Demonstrate correctly the first aid procedures for assisting victims of electric shock.
- (c) Describe clearly the dangers associated with the overheating of electrical systems.
- (d) Describe clearly the procedures in dealing with fires caused by overheating systems.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

Evidence for this Unit may be generated for each Outcome by a series of four assessments, each assessment event lasting no more than 30 minutes.

Written and/or recorded oral evidence and performance evidence should be produced to demonstrate that the candidate has achieved Outcome 1 to the standard specified in the Outcomes and Performance Criteria. The evidence should be produced under supervised, controlled conditions. The assessment will be closed-book and should last no more than 30 minutes.

Written and/or recorded oral evidence and performance evidence should be produced to demonstrate that the candidate has achieved Outcome 2 to the standard specified in the Outcomes and Performance Criteria.

Manual lifting and stacking techniques should be assessed in a supervised and controlled environment using loads of nominal weight which will not cause candidates to be injured. Such weights might be drums of cable or other practical items which a candidate may be expected to handle in his/her working environment. Since the generated evidence requires the technique of lifting and stacking to be assessed, the assessment process may be carried out using empty boxes, if the Centre deems this appropriate.

The 'Working at Height' assessment must be carried out in a safe and controlled environment in which every effort is made to ensure the safety of candidates.

Candidates must not work at heights exceeding two metres above ground level and should be assessed using pre-assembled scaffold, ladders or steps. (NOTE Candidates should NOT be given assessment tasks where they are required to use a body harness and restraining line).

The evidence should be produced under supervised, controlled conditions. The assessment will be closed-book and should last no more than 30 minutes.

National Unit Specification: statement of standards (cont)

UNIT Safe Working Practices (SCQF level 5)

Written and/or recorded oral evidence should be produced to demonstrate that the candidate has achieved Outcome 3 to the standard specified in the Outcomes and Performance Criteria. The evidence should be produced under supervised, controlled conditions. The assessment will be closed-book and should last no more than 30 minutes.

Written and/or recorded oral evidence and performance evidence should be produced to demonstrate that the candidate has achieved Outcome 4 to the standard specified in the Outcomes and Performance Criteria.

First-aid procedures should be assessed under simulated conditions with the use of a 'resuscitation dummy'.

The evidence should be produced under supervised, controlled conditions. The assessment will be closed-book and should last no more than 30 minutes.

Assessors should use a checklist to record candidate's achievement as they demonstrate the knowledge and skills set out in the Performance Criteria of each Outcome.

National Unit Specification: support notes

UNIT Safe Working Practices (SCQF level 5)

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

This is a restricted core Unit within the National Certificate in Electrical Engineering at SCQF level 5 and an optional Unit within the National Certificate in Electrical Engineering at SCQF level 6. This Unit can also be delivered on a free-standing basis.

The aim of this Unit is to introduce candidates to the hazards of the workplace, including those specific to the electrical and electronic industries, and the methods of minimizing their risk to personnel. Candidates will be introduced to ‘risk assessment’ techniques and risk control measures.

The Unit will enable candidates to know the difference between hazards and risks and be able to implement a risk assessment exercise on a practical work environment.

Specific work situations should be considered including the manual operations of pushing, pulling, lifting and stacking loads and working at heights. Risk control measures including, the use of mechanised equipment for moving and lifting loads should be included. Candidates should be instructed in the recommended methods of manually lifting and moving loads and should be able to demonstrate these.

The delivery of manual lifting and stacking techniques should be undertaken in a supervised and controlled environment using loads of nominal weight which will not cause candidates to be injured. The techniques of lifting and stacking to may be demonstrated using empty boxes, if this is deemed appropriate.

Candidates should also be made aware of the need for safe working at height and be able to demonstrate these safe working procedures. The delivery of such techniques should be undertaken in a supervised and controlled environment. A cushioned floor surface might be used if this is deemed appropriate by the Centre. Candidates should not be expected to work at heights exceeding two metres above ground level and should use pre-assembled scaffold, ladders or steps. Candidates should NOT be expected to work at heights where they are required to use a body harness and restraining line.

Candidates should also be introduced to the dangers of toxic smoke generation from soldering and/or welding operations and the need to ensure that risks due to this hazard are eliminated and/or controlled.

The dangers of electric shock and overheating of electrical appliances/systems should also be delivered and candidates should be provided with opportunities to demonstrate the first aid procedures in dealing with shock victims. Candidates should practice the techniques of resuscitation on a ‘resuscitation dummy’. First-aid procedures should include the need to ensure the supply is disconnected and the victim is removed from any potential source of electrical supply prior to resuscitation and after-care measures.

National Unit Specification: support notes (cont)

UNIT Safe Working Practices (SCQF level 5)

Candidates should be aware of the possibility of fire resulting from overheating of electrical appliances and/or systems. They should be instructed in the appropriate types of fire extinguisher for particular applications and the proper use of these.

The identification and use of Personal Protective Equipment (PPE) for the various applications should be included in the content of this Unit.

Candidates should be made aware of the relevant COSHH and Health & Safety Executive (HSE) guidelines should be used in the delivery of this Unit.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

This Unit should be delivered in a practical environment and should encourage candidates to become familiar with the techniques and terminology of ‘risk assessment’.

Candidates should be presented with a range of practical working environment scenarios and be able to discuss the hazards of each. They should also be presented with a real working environment, such as a practical workshop, and be able to carry out a risk assessment exercise. This could initially be done through group work to provide opportunities for debate on the identification of hazards, the assessment of risks and the control measures required.

Candidates should be provided with the range of control measures for the manual handling of loads, including the use of wheelbarrows, hoists and other mechanised means for lifting and moving objects. The correct method of manual lifting and stacking loads should also be taught.

The HSE requirements for working at height should be outlined, including the responsibilities of those involved in such operations and the features of equipment, temporary access structures, and safety requirements. Candidates should be provided with opportunities to demonstrate the techniques associated with such manual operations under safe, controlled and supervised conditions.

The dangers associated with the generation of toxic fumes, due to welding and/or soldering, should be highlighted along with the relevant requirements of the COSHH regulations. Risk control measures, including fume extraction methods, should be described.

The hazards of electric shock and fire, due to faulty electrical circuits and/or appliances, should be described and candidates should be able to discuss these and describe the procedures for dealing with their resulting effects. Candidates should be provided with opportunities to practice resuscitating and caring for victims of electric shock and should also be provided with information of the types of fire extinguisher appropriate for different types of fire and the correct use of these.

The use of appropriate PPE should be emphasized for all the hazardous situations dealt with in this Unit.

Case studies, discussion groups and practical exercises are some of the methods which could be used to engage with candidates to emphasise the importance of the topics included in this Unit and reinforce the requirements of various regulations and HSE guidelines.

National Unit Specification: support notes (cont)

UNIT Safe Working Practices (SCQF level 5)

The Outcomes should be delivered in the sequence given in the ‘statement of standards’. The practical aspects of these Outcomes should be demonstrated to candidates with the reasons for particular techniques being fully explained. Candidates should then be given opportunities to practice these techniques as appropriate.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In implementing a risk assessment exercise, candidates are required to review particular hazards in the workplace and evaluate the risks due to each of these. This provides opportunities for candidates to develop their *Problem Solving* skills in reviewing and evaluating problems and how these are minimised.

The Unit provides opportunities for candidates to work as a team, particularly in the assembly of ‘working at height’ equipment.

The communication of information both orally and written, is a requirement for candidates throughout the course of this Unit in terms of their risk assessment and other documentation, and their need to work together gives opportunities for candidates to work with others in the group, thus developing their Core Skills of *Communication* and *Working with Others*.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

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 communications 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)*.

This Unit should be assessed on an Outcome-by-Outcome basis with the assessment of each Outcome lasting no longer than 30 minutes. Opportunities to integrate assessments may also be possible however the total assessment time for this Unit should be no more than two hours

The assessment of Outcome 1 should take the form of a practical risk assessment exercise in which the candidate outlines the five-step risk assessment procedure and uses this procedure to produce risk assessment documentation for a practical work environment. The documentation produced should demonstrate achievement of all the Performance Criteria of this Outcome.

The assessment of Outcome 2 should take the form of practical exercises in which the candidates demonstrate the correct techniques for the manual lifting and stacking of loads and the techniques associated with safe working at heights. Candidates should be able to describe the need for safe working practices in relation to manual operations and the control techniques to minimise their risks. The candidate must produce evidence to demonstrate that all the Performance Criteria of this Outcome have been achieved.

National Unit Specification: support notes (cont)

UNIT Safe Working Practices (SCQF level 5)

The assessment of Outcome 3 should take the form of an exercise of short-answer or structured questions which allow the candidate to demonstrate achievement of all the Performance Criteria of this Outcome.

The assessment of Outcome 4 should take the form of a combined practical/short answer or structured question exercise in which the candidates describe the dangers of electric shock and the overheating of electrical systems and demonstrate the correct procedures for the resuscitation and care of electric shock victims. Candidates should also be able to describe the types of fire extinguisher appropriate to different types of fire and the use of these extinguishers.

The candidate must produce evidence to demonstrate that all the Performance Criteria of this Outcome have been achieved.

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