

## National Unit Specification: general information

**UNIT** Problem Solving (Access 2)

**NUMBER** D01E 08

### COURSE

#### SUMMARY

This core skills Unit seeks to develop skills in solving simple recurring problems. A simple recurring problem is familiar to the candidate who carries out a few clear steps and considers a small number of obvious influences affecting the problem in order to solve it. While tackling the problem, the candidate develops skills in analysing it, devising a plan to solve it, carrying out the plan and finally evaluating his or her success in solving the problem

#### OUTCOMES

1. Analyse a simple problematic situation or issue that is familiar.
2. Plan, organise and carry out a familiar, simple task in order to tackle the problem.
3. Review and evaluate success in tackling the problem.

#### RECOMMENDED ENTRY

Entry is at the discretion of the centre.

#### CREDIT VALUE

1 Credit at Access 2 (6 SCQF credit points at SCQF level 2\*)

*\*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.*

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### Administrative Information

**Superclass:** HB

**Publication date:** March 2004

**Source:** Scottish Qualifications Authority

**Version:** 02

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## **National Unit Specification: general information**

### **CORE SKILLS**

Information on the automatic certification of any core skills in this Unit is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, publication code BA0906).

## National Unit Specification: statement of standards

### UNIT Problem Solving (Access 2)

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 the Scottish Qualifications Authority.

#### Note on range for the Unit

At this level, candidates should be dealing with a simple, recurring problem.

A simple, recurring problem is one which involves:

- a situation familiar to the candidates
- analysis of two obvious influences affecting the problem
- management of a task involving three clear steps which the candidate takes in order to solve the problem

#### OUTCOME 1

Analyse a simple problematic situation or issue that is familiar.

##### Performance criteria

- a) Recognise obvious influences affecting the problem.
- b) Outline a task to solve the problem.

##### Evidence requirements

###### PC (a)

Oral and/or written evidence that the candidate has recognised two obvious influences affecting the problem. These influences should be included in a selection offered to the candidate.

###### PC (b)

Oral and/or written evidence that the candidate has outlined a task to solve the problem. The outline should be a course of action which the candidate recognises with teacher/lecturer prompting.

#### OUTCOME 2

Plan, organise and carry out a familiar, simple task in order to tackle the problem.

##### Performance criteria

- a) Plan a task consisting of simple steps in order to tackle the problem.
- b) Select resources needed for the task.
- c) Carry out the task effectively, by using the resources and following the plan.

##### Evidence requirements

###### PC (a)

Oral and/or written evidence that the candidate has planned a task consisting of three simple steps.

## **National Unit Specification: statement of standards**

### **UNIT        Problem Solving (Access 2)**

#### **PC (b)**

Evidence of actual performance which shows that the candidate has selected appropriate resources from a range which he or she recognises with teacher/lecturer prompting.

Resources may include any source materials, information, equipment, technology or facilities which may be used in carrying out the task.

#### **PC (c)**

Evidence of actual performance which shows that the candidate has decided how the task will be carried out, then carried out the task.

### **OUTCOME 3**

Review and evaluate success in tackling the problem.

#### **Performance criteria**

- a) Identify the strengths and weaknesses of the plan used to tackle the problem.
- b) Identify lessons learned about solving problems.

#### **Evidence requirements**

##### **PC (a)**

Oral and/or written evidence that the candidate has evaluated how well he or she has tackled the problem using simple criteria provided by the teacher/lecturer. Criteria might include use of time, personnel and material resources.

##### **PC (b)**

Oral and/or written evidence identifying two lessons learned by the candidate about solving problems which may be useful in the future.

## National Unit Specification: support notes

### UNIT Problem Solving (Access 2)

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 for this core skills Unit should be appropriate to the personal and vocational needs of the candidate.

Core skills Units are stated at five levels of attainment, with activities becoming progressively more demanding in breadth and depth, and in the extent of individual autonomy required. The appendix to this Unit shows the relationship between the levels in *Problem Solving*.

This Unit provides opportunities for the automatic certification of *Problem Solving* at Access 2. Problem Solving is a collective term for the abilities that people bring to bear in tackling a wide range of issues and problems in their daily lives.

The core skill components identified within *Problem Solving* are Critical Thinking, Planning and Organising and Reviewing and Evaluating. This *Problem Solving* Unit covers the core skill components in three outcomes.

#### Structure of National Units in Problem Solving Core Skills

Core Skill component	Skill	Outcome
Critical Thinking	being able to analyse situations and suggest courses of action	1
Planning and Organising	being able to plan and organise work and carry it through to completion	2
Reviewing and Evaluating	being able to reflect on what has been done and to draw conclusions for the future	3

The Unit provides opportunities for candidates to develop skills in solving simple recurring problems in familiar situations. At this level, it is acceptable for the teacher/lecturer to prompt candidates by referring to their previous experience.

The content and context for the Unit may be any familiar situation or issue that will interest candidates and allow them to demonstrate achievement as specified in the three outcomes. The range of contexts in which problem solving can be developed is very wide and may involve, for example: investigating; inventing; improving performance or learning; devising a study or other programme; or taking part in organising a placement, visit or other event. Such contexts can be found in virtually all curricular and vocational areas.

## National Unit Specification: support notes

### UNIT Problem Solving (Access 2)

#### **GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT**

The learning and teaching approaches should encourage candidates to identify evidence of their attainment in problem solving skills and to look for opportunities to transfer their skills to other situations in their overall curriculum and life. There should be a balance between teacher/lecturer exposition and candidates' experiential learning. Arrangements should be made to ensure that there are no artificial barriers to learning. The nature of the candidate's learning needs should be taken into account when planning learning experiences.

The three core skill components of Critical Thinking, Planning and Organising, and Reviewing and Evaluating can be seen as stages in the process of tackling issues and problems. Open-ended, investigative approaches to learning will support the development and application of these skills.

**The core skill component of Critical Thinking at Access 2** is about candidates being able to analyse a simple situation or issue which is set in a familiar context with a small number of obvious influences that have already been identified.

Candidates are required to outline a task (which is a routine, familiar course of action) to deal with the situation or issue. Candidates should recognise this course of action from their previous experiences at this level. They may be prompted to remember by the teacher/lecturer.

#### **Example:**

Familiar situation: organising a visit from a speaker to learn about the person's work  
(This time the visit is from the Samaritans)

*Obvious influences affecting the situation:*

- the visitor agreeing to come
- suitable date, time and venue for the visit

*Outline of task:*

1. invite visitor
2. arrange suitable time and venue
3. visit takes place

## National Unit Specification: support notes

### UNIT            Problem Solving (Access 2)

**The core skill component of Planning and Organising at Access 2** is about candidates having the ability to plan, organise and complete a familiar simple task. The candidates are expected to identify some simple steps in the plan, select resources to carry out the plan, and carry out the task.

#### **Example:**

**Familiar, simple task: organising a visiting speaker to learn about the person's work**  
(This time the visit is from the Samaritans)

#### *Simple steps in the plan:*

1. contact the Samaritans, invite a guest and explain purpose of the visit
2. agree with the Samaritans and home-site a suitable date and time for the visit
3. arrange a venue on the home-site
4. receive visitor and attend meeting

#### *Select resources:*

- identify visiting Samaritan
- confirm availability of venue on home-site
- arrange refreshments for visitor

#### *Carry out plan*

Candidates should select resources from a provided range of resources that they recognise from previous experience. At this level, the teacher/lecturer may prompt candidates by referring to their previous experience. Resources provided for the candidates might include sources of information, set procedures, people, equipment or physical resources. While carrying out the task, candidates are expected to decide how the task will be carried out and complete it using the selected resources, again with teacher/lecturer prompting reference to previous experience.

Opportunities for developing Planning and Organising can occur in all curricular and vocational fields. In all cases, the development of the skill benefits from the use of open-ended approaches to learning. The teaching and learning approaches should encourage candidates to identify the evidence of their attainment and to look for opportunities to transfer their skills to other situations in their overall curriculum and life.

## National Unit Specification: support notes

### UNIT Problem Solving (Access 2)

The core skill component of **Reviewing and Evaluating at Access 2** is about candidates having the ability to review and evaluate a simple recurring problem solving activity.

A simple recurring problem solving activity is one set in a familiar context involving a small number of obvious factors and simple task management. During this evaluation, candidates are expected to use simple criteria to identify the strengths and/or weaknesses of the plan used to tackle the problem. Criteria might include considering practicability in terms of time, personnel and material resources.

#### **Example:**

#### **Simple recurring problem solving activity: organising a visit from a speaker to learn about the person's work**

(This time the visit is from the Samaritans)

*Simple criteria for evaluating how well the problem was tackled:*

- **Timing:**  
How successful were the date, time, and length of visit?
- **Personnel:**  
How successful were the visitor and on-site hosts?
- **Materials:**  
How successful were the venue, refreshments?

*Strengths and weaknesses of the planned visit by the Samaritans:*

- **timing:**  
date and time suitable,  
length of visit too short
- **personnel:**  
visitor successful - gave plenty of information about working with the Samaritans  
on-site hosts very welcoming
- **materials:**  
venue comfortable  
refreshments too many and no time to enjoy

At this level, the teacher/lecturer may prompt the candidates by referring to their previous problem solving activities.

#### **GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT**

Arrangements should be made to ensure that there are no artificial barriers to assessment. The nature of candidates' special needs should be taken into account when selecting assessment instruments, and possibilities for alternative arrangements considered.

If this Unit is being used in conjunction with other Units or Courses, evidence of attainment should be gathered, wherever possible, from naturally occurring activities within these Units or Courses.

A staff observation checklist should be used where the candidate generates evidence of problem solving activities outwith the centre. The checklist may usefully provide supporting evidence for any of the activities related to Outcomes 1 – 3 and should be used accordingly.



## National Unit Specification: support notes (cont)

### UNIT Problem Solving (Access 2)

Where the *Problem Solving* Unit is being combined with another Unit to create an enhanced learning and teaching programme, care must be taken to ensure that all aspects of each Unit are covered and adequate time must be allowed for the coverage of both Units. Such a programme would create opportunities to consolidate the skills gained in this Unit.

Evidence should be indexed to the relevant outcome, performance criteria and evidence requirements of the *Problem Solving* Unit and should be collated and retained for assessment and moderation purposes.

#### Suggested assessment instruments

##### Outcome 1

All PCs. Responses to short answer questions, possibly in the form of an oral interview, would be suitable. An oral interview would facilitate teacher/lecturer prompting.

##### Outcome 2

PC (a). Responses to short answer questions, possibly in the form of an oral interview, would be suitable. An oral interview would facilitate teacher/lecturer prompting.

PC (b), PC(c). Video recording, or entries in a personal log, would be suitable for recording performance evidence.

##### Outcome 3

All PCs. Responses to short answer questions, possibly in the form of an oral interview, would be suitable. An oral interview would facilitate teacher/lecturer prompting.

Information on suggested assessment instruments	
<b>short answer question</b>	candidate response should consist of a few words
<b>oral interview</b>	a structured conversation, generally on a one-to-one basis, eliciting information directly from the candidate. Results may be recorded in a questionnaire format.
<b>log</b>	candidate demonstrates outcome of learning in a particular context, entries in a log record evidence, noting aspects such as targets, dates when targets achieved, actions, contacts.

Certification of Critical Thinking, Planning and Organising, and Reviewing and Evaluating recognises that candidates have demonstrated an appropriate level of skill in a particular context and there is an implication that, in contexts that contain knowledge and understanding accessible to the candidate, transfer is reasonably likely. However, it must also be recognised that familiarity with a context influences the candidate's ability to develop and transfer the skill.

This core skill Unit is aided by National Assessment Bank materials which provide assessment materials exemplifying the evidence required for achievement of the core skill.

## **National Unit Specification: support notes (cont)**

### **UNIT**            Problem Solving (Access 2)

In cases where the candidate has had to complete a core skills Unit to meet the requirements of a Scottish Group Award, that Unit will be counted as a Unit credit within the Scottish Group Award as well as being counted towards meeting the core skills profile required.

#### **SPECIAL NEEDS**

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, publication code AA0645).

**Core skills Units**  
**Problem Solving: progression chart**

**Appendix**

	<b>Access 2</b>	<b>Access 3</b>	<b>Intermediate 1</b>	<b>Intermediate 2</b>	<b>Higher</b>
<b>Nature of problem</b>	Simple recurring problem solving activity	Simple problem solving activity	Straightforward problem solving activity	Non-routine problem solving activity	Complex problem solving activity
<b>Critical Thinking</b>	Analyse an identified familiar situation or issue	Analyse a simple situation or issue	Analyse a straightforward situation or issue	Analyse a non-routine situation or issue	Analyse a complex situation or issue
<b>Planning and Organising</b>	Plan, organise and carry out a familiar simple task	Plan, organise and carry out a simple task	Plan, organise and carry out a straightforward task	Plan, organise and carry out a non-routine task	Plan, organise and carry out a complex task
<b>Reviewing and Evaluating</b>	Review and evaluate a simple recurring problem solving activity	Review and evaluate a simple problem solving activity	Review and evaluate a straightforward problem solving activity	Review and evaluate a non-routine problem solving activity	Review and evaluate a complex problem solving activity