



National Unit Specification: general information

UNIT Map Reading and Land Navigation (SCQF level 5)

CODE F5FH 11

SUMMARY

This Unit is designed to introduce candidates to the knowledge and skills necessary for reading maps, topographic maps and the use of a compass. On successful completion of this Unit, the candidate will be able to identify and describe map symbols, interpret topographic maps and use a compass to assist in movement over land. The candidate will review and evaluate their performance in a map reading activity.

This Unit may be part of a range of programmes of study in schools, colleges of further education or other centres. It is suitable for candidates with no previous knowledge of map reading and land navigation.

OUTCOMES

- 1 Demonstrate knowledge and understanding of the uses of maps.
- 2 Demonstrate knowledge and understanding of the use of a compass.
- 3 Orientate a topographic map to local features and the individual's position with the aid of a compass.
- 4 Plan and navigate a route and review own performance.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

Administrative Information

Superclass: RG

Publication date: March 2009

Source: Scottish Qualifications Authority

Version: 01

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National Unit Specification: general information (cont)

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CREDIT VALUE

1 credit at (Intermediate 2) (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

Achievement of this Unit gives automatic certification of the following Core Skill component:

- ◆ Problem Solving — Critical Thinking (SCQF level 4)

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

- ◆ Numeracy (SCQF level 3)

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

National Unit Specification: statement of standards

UNIT Map Reading and Land Navigation (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

Demonstrate knowledge and understanding of the uses of maps.

Performance Criteria

- (a) Describe the uses of different types and scales of maps.
- (b) Identify correctly a range of map symbols.
- (c) Demonstrate correctly the use of six figure grid references for given maps.
- (d) Calculation of distance using the scale is correct.
- (e) Calculation of height climbed or descended is correct.

OUTCOME 2

Demonstrate knowledge and understanding of the use of a compass.

Performance Criteria

- (a) Identify correctly the features of a compass.
- (b) Use a compass correctly to take grid and magnetic bearings.

OUTCOME 3

Orientate a topographic map to local features and the individual's position with the aid of a compass.

Performance Criteria

- (a) The orientation of the map by inspection of local features is correct.
- (b) The orientation of a map by the use of a compass is correct.
- (c) Identify the features which correspond to map symbols and contours.
- (d) Accurately identify the location of the individual on a map.

OUTCOME 4

Plan and navigate a route and review own performance.

Performance Criteria

- (a) Make appropriate route choice suitable to terrain, local environment, personnel and potential weather conditions.
- (b) Plan a route which cannot be navigated by line of sight.
- (c) Select appropriate resources for the planned route.
- (d) Undertake and complete a route using a topographic map and compass.
- (e) Carry out a review of the completed task.
- (f) Seek assessor feedback and identify areas for future development.

National Unit Specification: statement of standards (cont)

UNIT Map Reading and Land Navigation (SCQF level 5)

EVIDENCE REQUIREMENTS FOR THIS UNIT

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

Outcome 1 and 2 Written and/or oral evidence

The evidence will be produced under closed-book conditions at an appropriate point in the Unit when the candidate must:

- ◆ describe the roles of different types and scales of maps
 - 1:50000; 1:5000
- ◆ identify the features of a compass
 - meridian lines; north pointer; index; base plate; romer; direction of travel arrow, magnetic needle

Outcome 1, Outcome 2 and Outcome 4 — written and/or oral evidence

The evidence will be produced through holistic assessment by the completion of a route card and a review sheet. The candidate must:

- ◆ identify local features from map symbols
 - identify eight map symbols
- ◆ use of six figure grid references
 - correct to within an error margin of 100 metres on every occasion
- ◆ calculate distance using the scale
 - within 10% of the correct distance on every occasion
- ◆ calculate height climbed and descended
 - within 10% of the correct distance on every occasion
- ◆ use a compass to take bearings
 - taking a grid bearing (error margin 100 mls or six degrees — either side)
 - taking a magnetic bearing (error margin 100 mls or six degrees — either side)
- ◆ review of the completed task
 - own strengths and weaknesses
 - compare plan to actual route taken and highlight any changes
 - identify any 'lessons learned' to be implemented for future plans and routes

National Unit Specification: statement of standards (cont)

UNIT Map Reading and Land Navigation (SCQF level 5)

Outcome 3 and 4 — Performance Evidence

Candidates must satisfactorily use maps, compass, locate the individual (the person carrying out the exercise) using a map and plan a route on a minimum of **two** occasions. Candidates must demonstrate that they are able to:

- ◆ orientate the map by inspection of local features
 - line map to the north
 - correctly
- ◆ orientate the map by using a compass
 - line map to north
 - correctly
- ◆ identify the features which correspond to map symbols and contours
 - correctly
- ◆ locate and identify the person accurately on the map
 - correctly (100 metres)
- ◆ make appropriate route choice
 - a route which is safe, and achievable for terrain, local environment, personnel and weather conditions
- ◆ plan a route which cannot be navigated by line of sight
 - start and finish points are identified and sub divided into navigational legs
- ◆ undertake a given route using a map and compass
 - navigate a route over a minimum of two legs
 - the check point must be achieved on each leg

An assessor observation checklist must be completed to record candidate performance supported by the route card completed by the candidate.

An Assessment Support Pack has been produced for this Unit. This pack includes questions, an observation checklist, route card template and a candidate review sheet. Centres wishing to produce their own instruments of assessment should refer to the Assessment Support Pack to ensure that they are of a comparable standard.

National Unit Specification: support notes

UNIT Map Reading and Land Navigation (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 Unit is a mandatory Unit in the National Certificate Group Award Army Preparation at SCQF level 4. It can also be undertaken as a free standing Unit.

Candidates will be able to identify and interpret topographic maps to assist in movement over land. It should be noted that possession of this Unit, in itself, does not qualify the holder to lead others in mountainous terrain or other outdoor environments.

The delivery of the practical element of this Unit should be in a real environment. Outcome 1 (b), (c), (d), (e), and Outcome 2 (b) and Outcome 4 (a) and (b) can be holistically assessed where the evidence may be gathered from the practical activity in Outcome 3.

Candidates may be given a route card template to complete during the assessment of the route planning. Teacher/Lecturer may provide the candidate with completed route card for the practical activity.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Outcome 1 should be delivered prior to practical activity in Outcomes 2, 3 and 4. It is anticipated that the Unit as a whole will be delivered in the appropriate environment. In order to gain an understanding of maps demonstrations, video, group discussion, text books, internet may be used.

Demonstrations given by the lecturer/teacher in the initial phase, and possibly throughout the delivery of the Unit should ensure that adequate coverage of the different conditions is delivered to the candidate.

The candidate will gain knowledge and understanding of techniques and use of maps through practical experience and this will give them the ability to confidently navigate.

Delivery of elements of the Unit may be by demonstration, role-play and practicing the skills of communicating with others to develop the tasks.

Initial practice may be given and when the candidate reaches a satisfactory standard they should progress to real situations.

National Unit Specification: support notes (cont)

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OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will be calculating route plans using maps and compass and making decisions before and during the navigation of a route. There will therefore be opportunities to develop aspects of the following Core Skills:

- ◆ Numeracy
- ◆ Problem Solving

Opportunities should be taken during this Unit to emphasise that employability skills developed and the relevant Core Skills indicated above are skills that apply to a wide range of situations both in everyday life and in employment.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

A suitable instrument of assessment for Outcomes 1 and 2 would be a question paper on the uses of maps and the identification of key parts of a compass. This assessment should take place early on in the Unit and prior to other assessments for the Unit.

Outcome 3 and 4 — suitable evidence would be practical exercises where candidates will be assessed in a real situation when they will use maps, compass, locate the individual using a map and with the aid of a compass, and plan a route on a minimum of **two** occasions.

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)*.

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