



National Unit specification: general information

Unit title: Navigational Positional Skills (SCQF level 5)

Unit code: FN56 11

Superclass: MH

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Summary

This Unit is designed to introduce candidates to navigation equipment, navigation and relocation skills and emergency procedures. The Unit is intended for candidates who wish to develop their knowledge and understanding of navigational positional skills relating to health and safety within the gamekeeping sector.

This Unit is an optional Unit in the National Certificate in Gamekeeping but is also available for candidates wishing to study the Unit on its own.

Outcomes

- 1 Identify equipment and resources associated with navigation in the UK.
- 2 Identify and participate in movement skills and route finding.
- 3 Participate in navigation and relocation techniques.
- 4 Identify and carry out emergency procedures in a hill environment.

Recommended entry

While entry is at the discretion of the centre, it would be beneficial if candidates had previous experience or some knowledge on the aspects of activities relating to navigation and map reading.

Credit points and level

1 National Unit 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.*

National Unit specification: general information (cont)

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Core Skills

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

- ◆ Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

National Unit specification: statement of standards

Unit title: Navigational Positional Skills (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 equipment and resources associated with navigation in the UK.

Performance Criteria

- (a) Identify correct clothing, food and equipment associated navigation and their use.
- (b) Identify map keys and conventional signs.
- (c) Calculate distances correctly, and appropriate to designated route.

Outcome 2

Identify and participate in movement skills and route finding.

Performance Criteria

- (a) Demonstrate correct posture and pace appropriate to topography of ground.
- (b) Identify correct and accurate location and correct in relation to map and ground.
- (c) Calculate grid references appropriately for a given situation.

Outcome 3

Participate in navigation and relocation techniques.

Performance Criteria

- (a) Identify the key components of navigational tools for successful navigation.
- (b) Recognise the scales and contours within an OS map to allow successful navigation.
- (c) Identify the correct methods for navigation and relocation in a hill environment.
- (d) Calculate timing and pacing for a given route in a hill environment.

Outcome 4

Identify and carry out emergency procedures in a hill environment.

Performance Criteria

- (a) Identify hazards associated with navigation and route finding.
- (b) Identify correct procedures to promote health and safety in a hill environment.
- (c) Recognise the movement of minor weather patterns in a hill environment.
- (d) Identify methods of safe evacuation relating to other personnel in a hill environment.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

Outcome 1

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance criteria.

The evidence must include:

- ◆ identification of correct clothing layering system for appropriate situations
- ◆ identification of correct boot features and choice. The candidate must identify if the boot is leather or fabric with ankle support and identify if boots are 2 or 4 season
- ◆ identification of protection from extremities
- ◆ identification of rucksack types. This must relate to 25L, 35L and 65L capacity types
- ◆ identification of nutritional food types for appropriate situations
- ◆ identification of drink and fluid hydration for appropriate situations
- ◆ identification of 6 simple map keys and related symbols — this must include: bridge, mixed wood, outcrop, scree, lochan and contour line
- ◆ methods of calculating distance for a proposed route

Outcome 2

Candidates should provide written and/or recorded oral evidence and performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The candidate will be assessed within a given practical task associated with movement skills and route finding. This must include the ability to identify their location in relation to the map and ground. The candidate must confirm this by providing a six figure grid reference relating to their location.

The evidence must include:

- ◆ maintaining a steady pace within a hill environment
- ◆ efficient movement on steep and uneven ground
- ◆ simple route finding from a map
- ◆ map to ground interpretation
- ◆ recognition of slope angle
- ◆ recognising the grid system, and calculating a grid reference

National Unit specification: statement of standards (cont)

Unit title: Navigational Positional Skills (SCQF level 5)

Outcome 3

Candidates should provide written and/or recorded oral and performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria. The candidate will be assessed within a given practical task associated with navigation and relocation techniques. This must include the ability to undertake a navigational leg on a proposed short simple route.

The evidence must include:

- ◆ candidate must demonstrate or identify a method of relocation strategy during their navigational leg
- ◆ identification of navigational tools, and their key components. This must include: GPS, compass, altimeters, stop watch and head torch
- ◆ recognition of the scales and contours within an OS map to allow successful navigation must include reference to: northings, southings, eastings, westings, 1:25000 and 1:50000 map scales
- ◆ calculation of location relevant to a given situation
- ◆ identification of methods for navigation and relocation in a hill environment must include calculation of a successful compass bearing
- ◆ identification of relocation strategies for poor weather. This must include hand railing, slope aspect, distance estimation and aiming off
- ◆ suitable timing and pacing strategies for a given situation

Outcome 4

Candidates should provide written and/or recorded oral evidence and performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance criteria. The candidate will be assessed within a given practical task associated with simple emergency procedures within a hill environment. This must include the ability to carry out one simple emergency procedure for a given situation.

The evidence must include:

- ◆ hazards associated with route finding must include magnetic variation, poor visibility, orientation of the map and misreading of the map
- ◆ recognition of movement of weather patterns which must include:
 - interpretation of weather patterns including simple cloud formation, cold and warm fronts
 - interpretation of synoptic charts. This must include high, low pressure, clockwise and anti-clockwise winds associated with them
 - identification of methods of safe evacuation to ensure safety of others in a hill environment
 - basic emergency procedures for a given situation

National Unit specification: support notes

Unit title: Navigational Positional Skills (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 mandatory Unit within the National Certificate in Gamekeeping (SCQF level 5), but can also be taken as a free-standing Unit.

This Unit is aligned to the following LANTRA National Occupational Standard:

◆ Cu2 Monitor and Maintain Health & Safety

This Unit is intended for candidates who wish to develop knowledge and understanding of navigational positional skill, relating to health and safety which within the gamekeeping sector. This will also apply to relocation in a hill environment due to map misinterpretation or failure to reach a given point.

Outcome 1

This Outcome will enable the candidate to identify the clothing, nutritional requirements and basic interpretation of map keys, conventional signs, and distance calculations prior to a planned day within a hill environment. This should include: base layer garments and materials, mid-layer garments, gaiters, gloves, insulation, jackets, waterproof and windproof, clothing, synthetic fibres, fleeces, thermal wear, perspiration, and freedom of movement. Emphasis should be given to their durability, weight, and purpose. A preference for suitable footwear that is lightweight, durable, waterproof and fitting should be shown. Rucksacks must be considered where there is a likelihood of additional equipment being carried and factors to be considered should include lightweight, capacity, comfort, and fit.

The candidate should develop knowledge and understanding of food and drink associated with rough terrain and mountainous environments. Reference should be given to food types high in carbohydrates for energy, isotonic drinks for salt replacement, and should include bread, fish, pasta, fruit, nuts and energy bars.

An understanding should also be developed of the conventional keys and signs associated with a UK ordnance survey map. This should apply to cliffs, outcrops, scree, woodland, burns, lochs, paths, roads, and pylons.

The candidate should be introduced to simple calculation of a distance to a related route. This should relate to the recognition of grid lines and kilometre squares on the map.

The candidate could be assessed by a range of short written response question and answers. This could include four digital images relating to two simple map keys and two simple related symbols. It is also expected that the candidate will be assessed on the calculation of distance for a proposed route taken from two ordnance survey exemplars.

National Unit specification: support notes (cont)

Unit title: Navigational Positional Skills (SCQF level 5)

Outcome 2

This Outcome introduces the candidate to maintaining a steady pace in the hill, and movement on uneven and steep ground. This includes the ability to keep head and shoulders high, eyes looking several metres ahead, hands out of pockets, and legs moving from hips rather than the knee. The need to lift the feet higher than normal should be emphasised to enable crossing of uneven ground and obstacles.

The candidate should learn to gauge a proper pace to suit a given situation. This should include intake of oxygen (breathing), level of fitness, terrain and weather. Identification of a steady pace should be compared with bursts of speed followed by enforced rests.

Simple route finding should be practiced to enable the candidate to familiarise with basic features on the map. Short routes should be encouraged to minimise margin for error. This should include route planning to woodside edges, familiar footpaths and burns. Interpretation of map to ground should be practiced in ground where there are many identifiable features, with progression to locations with less familiar features. Slope angles within terrain should be recognised, and contour lines associated them. Comparisons should be made from ground to map and vice versa. This should include: index contour lines, uphill, downhill, ridges and flat areas.

Grid lines and scales within an OS map should be recognised, with reference given to northings, southings, eastings, westings 1:25000 and 1:50000 map scales. This should lead onto the calculation of a numerical reference system (grid reference) used for the pinpointing of any given point.

Outcome 3

In this Outcome the candidate will develop a knowledge and understanding of the tools associated with navigation, and the basic ability to navigate and relocate in the event of poor visibility. This should relate to the base plate orienteering compass and global positioning system (GPS). Particular emphasis should be given to navigation via map and compass. This should include magnetic variation, measuring distances on the map, and setting the map prior to taking a compass bearing. The features of the compass and an explanation of their use should include compass needle, orienteering lines, bearing numbers, orienteering arrow, magnifying lens, direction of travel arrow, romer scale, compass housing and base plate. A brief but detailed description of the GPS, and the disadvantages as a navigational tool should include distance travelled, average speed, altimeter, waypoints, failure to recognise falling ground and poor signals in enclosed spaces, gorges and forests.

The navigational strategies should include sighting a bearing and tick features. This allows the candidate to follow a chosen compass bearing, whilst ticking off recognised features along the way to the intended point. Relocation strategies should be recognised and should include gathering of information, slope aspect, back bearings and boxing. Progression should lead to the timing and pacing for an intended bearing, and this should relate to Naismith's rule.

National Unit specification: support notes (cont)

Unit title: Navigational Positional Skills (SCQF level 5)

Outcome 4

This Outcome will allow the candidate to develop a knowledge and understanding of weather patterns, synoptic charts, safety of others in a hill environment, and basic emergency procedures. The candidate should recognise the prevailing conditions of the weather, this should include wind speed and direction, temperature, precipitation, visibility and future patterns. Sources associated with the gathering of localised weather information should relate to television, telephone/fax, internet, newspaper, posted bulletins and radio.

A basic understanding of cloud formation should link directly to the behaviour of warm and cold air, occluded fronts, and orographic rainfall. This leads to the basic interpretation of synoptic weather charts and should include low pressure, high pressure and distance between isobars. The identification of these particular zones will enable the candidate to determine inclement weather and wind speed in relation to their geographical position within the UK.

Emergency procedures should relate to lone and other parties. This should include decision making, re-assurance to others, basic emergency equipment, first aid kit provisions, communications, and simple make-shift emergency props. It is expected that the emergency procedure should relate to a leg injury, foot injury, exhaustion, and heat loss. Candidates should make use of any props or equipment presented to them for their given situation. All emergency procedures should take place within a hill environment; however as an Alternative this may be simulated outwith a hill environment.

Guidance on learning and teaching approaches for this Unit

Essential knowledge and understanding could be developed by a variety of teaching and learning approaches including:

- ◆ tutorials
- ◆ DVD/video
- ◆ demonstrations
- ◆ internet/website
- ◆ internal visitation
- ◆ field trips/investigation
- ◆ group work
- ◆ working individually

It is expected that candidates will be given support and guidance from the instructor or lecturer in all Outcomes before progressing to an assessment.

Guidance on approaches to assessment for this Unit

The following approaches to assessments are suggested:

Outcome 1	Restricted response question/answer
Outcome 2	Practical/observation checklist
Outcome 3	Practical/observation checklist
Outcome 4	Practical/observation checklist

Time should be allowed for any necessary re-assessment.

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)*.

Opportunities for developing Core Skills

This Unit provides ideal opportunities for candidates to develop aspects of Communication, Numeracy and Problem Solving at SCQF level 5. This may relate to and enable the candidate to have the ability to communicate with individuals during navigation operations, timing and pacing during poor visibility and simple effective route planning.

This Unit has the Problem Solving component of Critical Thinking embedded in it, so when the candidate achieves this Unit their Core Skills profile will be updated to show they have achieved Critical Thinking at SCQF level 5.

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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