



National Unit Specification: general information

UNIT Seamanship: An Introduction (SCQF level 5)

CODE F8L0 11

SUMMARY

This Unit is a mandatory Unit in the SCQF level 5 Maritime Skills Course and has been designed to be taken as part of that Course. The Unit may be offered as a free-standing Unit.

This Unit introduces candidates to the operation of boats and their equipment. It will enable candidates to develop basic boat handling skills and an awareness of safety requirements in a maritime environment. Effective anchoring, mooring and the securing of a vessel will also be considered. The candidates will learn from this Unit the use of ropes, wires and chains. It is intended for candidates who wish to develop generic employability skills which are valued by all employers and vocational skills relevant to a career in the Maritime sector. This Unit has been designed for candidates in S3 or above but may also be suitable for other candidate groups.

OUTCOMES

- 1 Demonstrate the basic skills required to handle a small boat.
- 2 Produce a safety checklist for a specific anchoring and mooring activity.
- 3 Contribute to the safe anchoring and mooring of a small boat.
- 4 Demonstrate skills in the use of ropes, wires and chains in a maritime context.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

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.*

Administrative Information

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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 components 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

Demonstrate the basic skills required to handle a small boat.

Performance Criteria

- (a) Carry out basic checks that the boat is seaworthy.
- (b) Carry out basic checks on personal safety equipment.
- (c) Check propulsion and operating systems using the correct method.
- (d) Control the speed and direction of the boat as instructed within collision regulations.
- (e) Berth and unberth the boat as instructed.
- (f) Control the boat appropriately as instructed when approaching and retrieving a person overboard.
- (g) Follow all relevant health and safety guidelines throughout.

OUTCOME 2

Produce a safety checklist for a specific anchoring and mooring activity.

Performance Criteria

- (a) Identify the risks and issues associated with a specific activity.
- (b) Identify procedures which will minimise the risks and issues.
- (c) Identify the equipment needed to complete the activity safely.
- (d) Identify effective watch keeping practices needed when the boat is anchored.

OUTCOME 3

Contribute to the safe anchoring and mooring of a small boat.

Performance Criteria

- (a) Select and don appropriate personal protective equipment when instructed.
- (b) Work co-operatively with others to complete pre-anchoring checks as instructed.
- (c) Work co-operatively with others to complete anchoring and mooring procedures as instructed.
- (d) Follow all health and safety guidelines throughout.

National Unit Specification: statement of standards (cont)

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OUTCOME 4

Demonstrate skills in the use of ropes, wires and chains in a maritime context.

Performance Criteria

- (a) Form a variety of knots, bends and hitches correctly.
- (b) Select appropriate knots, bends and hitches for specific purposes.
- (c) Construct a variety of splices on ropes correctly.
- (d) Calculate the breaking strains and safe working load of specific ropes, chains and wires.
- (e) Follow all health and safety guidelines throughout.

EVIDENCE REQUIREMENTS FOR THIS UNIT

Performance evidence and written/oral evidence is required to show that all Outcomes and Performance Criteria have been achieved.

The evidence may be gathered at appropriate points throughout the Unit when candidates have developed the necessary skills.

Outcome 1, 3 and 4 — Performance evidence

Performance evidence will be generated from practical activities carried out under supervised conditions at the required safety standards. Candidates should be given a clear brief prior to the activities, detailing the skills they will be required to demonstrate. Candidates are required to demonstrate by practical activity in a real or simulated maritime context on **one** occasion that they can:

For Outcome 1:

- ◆ check that the boat they are about to board is seaworthy
- ◆ check that there is a suitable means of pumping out excess water
- ◆ check all personal safety equipment
- ◆ check the steering gear
- ◆ check the engine controls
- ◆ check the amount of fuel required for the passage
- ◆ control the speed and direction of a vessel in open water by steering a straight compass course
- ◆ control the speed and direction of a vessel in open water steering by visual means
- ◆ carry out unberthing and berthing up procedures showing an understanding of the effect of the propeller (transverse thrust)
- ◆ use helm and engine controls to approach a casualty in the water while allowing for weather conditions
- ◆ by using a dummy retrieve a man overboard from the water
- ◆ follow all relevant health and safety guidelines throughout
- ◆ follow instructions during the activity

National Unit Specification: statement of standards (cont)

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For Outcome 3:

- ◆ select and don the necessary personnel protective equipment (PPE) when instructed
- ◆ work co-operatively with others to complete the pre-anchoring checks as instructed
- ◆ work co-operatively with others to complete anchoring and mooring procedures as instructed
- ◆ follow all health and safety guidelines throughout

For Outcome 4:

- ◆ form one knot, one bend and one hitch as instructed from the following list: Bowline, Fisherman's bend, Fisherman's knot, Rolling hitch, Clove hitch, Cow hitch, Single sheet bend, Reef knot, Round turn and two half hitches
- ◆ select a suitable knot, bend or hitch for a specific purpose. **Three** from the list below:
 - fixing a fender to a specific point
 - fixing a mooring rope to a ring
 - joining two ropes of same size
 - making a temporary eye
- ◆ select the correct materials for the construction of a splice
- ◆ apply plain whippings on a rope in preparation for a splice
- ◆ form an eye, back and short splice on a 12 mm Polypropylene rope
- ◆ calculate the BS (breaking strain) using a set formula of a rope
- ◆ calculate the BS, using a set formula, for wires of various diameters
- ◆ calculate the (SWL) safe working load for ropes and wires using the set formula
- ◆ follow all health and safety guidelines throughout

Instructions should be given using the appropriate nautical terms. An assessor observation checklist must be used to record the candidate's performance and to provide evidence for Outcomes 1, 3 and 4.

Outcome 2 — Written and/or oral evidence

Candidates are required to produce written and/or oral evidence in the form of a completed safety checklist developed in response to a given scenario for a specific anchoring and mooring activity. Candidates should be given a template to complete on their own at an appropriate point in the Unit when the knowledge and skills have been developed. The candidates will be given a brief which contains a description of the scenario, a template for responses and instructions that they must identify:

- ◆ the risks and issues involved for the specific activity
- ◆ procedures which will minimise the risks and issues
- ◆ the equipment needed to complete the activity safely.
- ◆ effective watch keeping practices needed when the boat is anchored

The National Assessment Bank pack for this Unit provides candidate brief exemplars, template for Outcome 2 and the assessor observation checklists. If centres wish to design and develop their own assessments for this Unit, they should be of a comparable standard, and they should refer to the NAB for verification prior to use.

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

This Unit introduces candidates to the operation of boats and their equipment. It will enable candidates to develop basic boat handling skills and an awareness of safety requirements in a maritime environment. Effective anchoring, mooring and the securing of a vessel will also be considered. The candidates will learn from this Unit the use of ropes, wires and chains. It is intended for candidates who wish to develop generic employability skills which are valued by all employers and vocational skills relevant to a career in the Maritime sector.

It is the centre's responsibility to ensure that all Health and Safety Guidelines are followed. A full risk assessment should be undertaken before a candidate engages in practical tasks in this Unit.

During this Unit, in addition to the specific vocational skills developed and assessed, candidates will have an opportunity to develop the following employability skills:

- ◆ positive attitude and willingness to learn
- ◆ maintaining good timekeeping and attendance
- ◆ communication skills
- ◆ ability to follow instructions*
- ◆ working cooperatively with others*
- ◆ working to agreed deadlines
- ◆ showing respect and consideration for others*
- ◆ flexibility and adaptability
- ◆ safe and appropriate handling of equipment*
- ◆ awareness of health and safety *
- ◆ understanding of personal survival techniques*
- ◆ fire safety awareness
- ◆ confidence to seek feedback
- ◆ reflecting on own performance
- ◆ review and self-evaluation skills
- ◆ understanding of the workplace*

Development in a number of these employability skills (those marked with an asterisk *) will be clearly identified as a result of evidence generated through the assessment activities for this Unit. There are opportunities in the Unit to develop the remaining skills.

National Unit Specification: support notes (cont)

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GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

It is important there is an induction to this Unit which will include a health and safety briefing. If the centre has the facilities candidates should experience on board working conditions and should be encouraged to perform tasks and conduct themselves in a manner appropriate to the workplace.

During the practical activities of boat handling, instructions given must use the correct nautical terminology for example: for steering gear tests, helm orders, engine orders, steering by compass orders. The boat used for this purpose must be to the official standards required.

Prior to carrying out practical activities candidates should be made aware of the various hull forms that are in existence and that the hull construction can determine the performance of the boat in rough weather. A description of the effects of wind, weather and tide factors on boats and of the safety precautions to be taken in rough weather is recommended. Ways of estimating wind direction and force and the set of tide by visual observation may also be considered. This can be covered in a classroom environment using diagrams, handouts and checklists.

Anchoring and mooring can be taught in a classroom using overheads, an electronic presentation or by using an actual anchor and associated gear however if at all possible where anchoring facilities are available the Outcome can partly be taught on board a boat. Identification and the description of various anchors, cables and associated gear should be considered. Using a navigation chart to identify an appropriate anchorage and how to calculate the required length of chain required to suit depth of water should be tackled. The effects of tide and wind and effective watchkeeping while at anchor and three methods used to check for the anchor dragging should be described and how to secure anchors and cables for sea explained.

Outcome 4 of this Unit should be demonstrated in an open and safe area by a person with experience in ropework and rigging. The construction of various ropes — natural and synthetic fibres, wire, cable laid and multi plait - and the properties and identification of each type of should be considered. Identification and the use of the following knots - Bowline, Fisherman's bend, Fisherman's knot, Rolling hitch, Clove hitch, Cow hitch, Single sheet bend, Reef knot, Round turn and two half hitches - should be practised. All materials and tools used for this Outcome should be of the highest standard. The reason for calculating the safe working load and the breaking strain of a rope or wire should be explained prior to carrying out calculations. When breaking strains are calculated, a standard scale should be referred to.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will perform calculations on breaking strain (BS) and safe working load (SWL). These activities provide opportunities to develop aspects of the Core Skill of *Numeracy*. With a team of candidates onboard a vessel, aspects of the Core Skill of *Working with Others* may be developed.

National Unit Specification: support notes (cont)

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GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Evidence that covers all the Outcomes and Performance Criteria is required. This should take the form of written and/or oral recorded evidence and performance evidence.

Evidence Requirements are fully expressed in the mandatory section of this Unit Specification.

Outcomes 1, 3 and 4 require candidates to undertake practical activities. The assessment of Outcome 1 and 3 will be an ongoing evaluation of the candidate's ability to control, manoeuvre a small boat and contribute to the safe anchoring and mooring of the boat. This should be spread over a number of boat visits. The assessment of these Outcomes may be integrated. In Outcome 4 the assessment requires practical activities with ropes the calculation of Safe Working Load and Breaking Strain, the formulas for the calculations should be given to candidates.

The practical assessments should be carried out with due consideration to health and safety requirements throughout.

Assessor observation checklists must be used to record candidate's achievement. These should be retained.

The assessment for Outcome 2 requires candidates to provide responses to a specific scenario of anchoring and mooring a boat. They should be provided with a template for responses which they will complete on their own at an appropriate point in the Unit.

Written and/or recorded oral evidence, assessor checklists and other assessment records should be maintained and kept up to date to keep track of candidate progress and to provide evidence for internal and external verification purposes.

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)*.

The National Assessment Bank (NAB) pack for this Unit provides candidate brief exemplars, a template for Outcome 2 and assessor observation checklists. Centres wishing to develop their own assessments should refer to the NAB to ensure that they are of a comparable standard. It is recommended that these are submitted to SQA for verification prior to use.

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