



## National Unit Specification: general information

**UNIT** Bridge Watchkeeping: An Introduction (SCQF level 5)

**CODE** F7HK 11

### SUMMARY

The Unit has been designed to provide the candidate with an understanding of the knowledge and procedures required to maintain a safe navigational watch on the bridge of a vessel. It will enable the candidate to perform the necessary chartwork techniques to ensure that they can determine the vessel's position on a chart.

It will also ensure that the candidate is aware of the International Regulations for the Prevention of Collisions at Sea (IRPCS) and the International Association of Lighthouse Authorities (IALA) system of buoyage.

It is primarily aimed at candidates who intend to seek sea-going employment as a Merchant Navy Deck Officer. However it may also be studied by someone with an interest in the subject area.

### OUTCOMES

- 1 Demonstrate knowledge of information contained on a navigational chart.
- 2 Use navigational drawing instruments.
- 3 Demonstrate a basic knowledge of the IRPCS and IALA Maritime Buoyage system.
- 4 Identify the principles of keeping a safe navigational watch.
- 5 Identify meteorological phenomena.

### RECOMMENDED ENTRY

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

- ◆ Standard Grades at General level in English, Mathematics and Physics (or dual/combined Science) and at least one other subject.

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#### Administrative Information

**Superclass:** ZF

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## **National Unit Specification: general information (cont)**

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### **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 point at an SSCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### **CORE SKILLS**

There are opportunities to develop the following Core Skills in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

*Communication: Reading at SCQF level 5*

*Communication: Writing at SCQF level 5*

*Communication: Oral at SCQF level 5*

*Numeracy: Using Number at SCQF level 5*

*Numeracy: Using Graphical Information at SCQF level 5*

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

### **UNIT**      Bridge Watchkeeping: An Introduction (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 of information contained on a navigation chart.

##### **Performance Criteria**

- (a) Interpret correctly features on the sea bed.
- (b) Describe accurately coastal features and landmarks.
- (c) Explain correctly charted information provided for a lighthouse.
- (d) Use latitude and longitude scales correctly.
- (e) Explain correctly the importance of written information provided on charts.

#### **OUTCOME 2**

Use navigational drawing instruments.

##### **Performance Criteria**

- (a) Accurately plot a position on a chart using latitude and longitude co-ordinates.
- (b) Correctly lay off a bearing and distance from a landmark and find latitude and longitude.
- (c) Measure accurately the true course and distance between two positions.

#### **OUTCOME 3**

Demonstrate basic knowledge of the IRCPS and IALA Maritime Buoyage System.

##### **Performance Criteria**

- (a) Describe correctly the colours and arc of visibility of masthead, side and stern lights.
- (b) Describe accurately shapes exhibited by seagoing vessels.
- (c) Explain correctly the signals of vessels in restricted visibility and their meaning.
- (d) Explain correctly the signals of distress.
- (e) Describe correctly the lights and shapes of lateral and cardinal buoys.

#### **OUTCOME 4**

Identify the principles of keeping a safe navigational watch.

##### **Performance Criteria**

- (a) Explain correctly the principles of keeping a lookout.
- (b) Describe correctly the duties of a bridge watchkeeping officer (OOW).
- (c) Explain correctly the importance of a proper watch handover.
- (d) Identify correctly common single letter signal flags.
- (e) Demonstrate correctly a basic knowledge of compass errors, deviation and variation.

## **National Unit Specification: statement of standards (cont)**

### **UNIT**      Bridge Watchkeeping: An Introduction (SCQF level 5)

#### **OUTCOME 5**

Identify meteorological features.

#### **Performance Criteria**

- (a) Demonstrate the correct knowledge of idealised wind pressure system and associated wind direction.
- (b) Demonstrate correctly, by using the Beaufort scale, knowledge of wind speed and direction.
- (c) Identify accurately major cloud types.

#### **EVIDENCE REQUIREMENTS FOR THIS UNIT**

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

Written and/or recorded oral evidence is required to demonstrate that the candidate has achieved this Unit to the standard specified in the Outcomes and Performance Criteria. The evidence for this Unit should be obtained under controlled, supervised conditions.

Evidence will consist of two assessments: one covering Outcomes 1 and 2 and one covering the Outcomes 3, 4 and 5.

Outcomes 1 and 2 will be assessed by completion of practical time constrained chartwork exercises. Candidates will need to correctly interpret four out of six features on the seabed and accurately describe four out of six coastal features and landmarks on a navigational chart. For a given lighthouse, on a chart, the candidates will need to explain correctly the information written adjacent to it and explain correctly the importance of the written information provided on a chart, chosen from a random sample. Candidates will also need to correctly use latitude and longitude scales to plot positions and identify positions of charted objects. Candidate will also plot positions by correctly laying off a bearing and distance from a landmark and accurately measure the true course and distance between two plotted positions.

Outcomes 3, 4 and 5 will be assessed by short answer test. Outcome 3 will be assessed using a sample of flash cards depicting vessel lights, shapes and navigational buoys. Candidates will be expected to identify six out of nine answers correctly. Candidates will also be asked to correctly explain ten signals of distress. Candidates will also be questioned on the principles of keeping a lookout and describe four duties of a bridge watchkeeping officer (OOW) and explain six areas that should be discussed during a watch handover. Candidates will be expected to correctly identify four common single letter signal flags and demonstrate a basic knowledge of compass errors, deviation and variation. With regard to Outcome 5, candidates will be expected to draw an idealised wind pressure system of the world and demonstrate correctly the areas of high and low pressure and associated wind direction; name correctly five Beaufort scale wind speeds and identify four major cloud types, from a random sample.

## **National Unit Specification: support notes**

### **UNIT        Bridge Watchkeeping: An Introduction (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 designed to give a general introduction to the basic elements of bridge watchkeeping practice.

Outcomes 1 and 2 will be achieved by practical exercises in a chartroom environment. Outcomes 3, 4 and 5 will be achieved in a classroom environment and the use of charts, chart instruments and nautical publications will form an integral part of the practical elements of the course. Content associated with the Outcomes is specified by the Performance Criteria.

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

Learning and teaching approaches may be enhanced by the use of Information Communication Technology, videos, slides and models. Exercises based on local charts with early exposure to charts and chart instruments are desirable.

#### **OPPORTUNITIES FOR CORE SKILL DEVELOPMENT**

There are opportunities to develop the following Core Skills in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

*Communication:* Reading and Writing and Oral at SCQF level 5

In Outcome 1 candidates will be expected to be conversant with marine charts and the symbols found on them plus they will be expected to accurately interpret written descriptions of charted objects. It is vitally important that they are fully aware of the importance of interpreting the chart correctly as the safety of the vessel depends on this. They will be asked orally to provide meanings of a number of charted features and again the correct oral interpretation is paramount, also in Outcome 3 candidates will be asked to give an oral accurate explanation of lights and shapes exhibited by a variety of different vessels, thereby identifying the type of vessels, its actions.

*Numeracy:* Using Number at SCQF level 5

*Numeracy:* Using Graphical Information at SCQF level 5

In Outcome 2 candidates will be required to show that they can perform simple calculations involving distance and angle based on information extracted from a marine chart. In Outcome 4 candidates will have to identify the meaning of flags hoisted at sea, in terms of the International code of signals. This involves being shown a graphical image of the flag with the candidate stating its meaning.

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

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### **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)*.

All Outcomes must be achieved.

Evidence of valid and reliable assessment of satisfactory achievement of the Performance Criteria specified for each stated Outcome.

A pass/fail system will apply.

Candidates must be informed of the tasks which contribute to summative assessment. Candidates who have been unsuccessful in achieving an Outcome should have the opportunity to be re-assessed following appropriate remediation, consolidation or reinforcement.

#### **CANDIDATES WITH DISABILITIES AND/OR ADDITIONAL SUPPORT NEEDS**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* ([www.sqa.org.uk](http://www.sqa.org.uk)).