



## National Unit Specification: general information

**UNIT** Shipboard Operations: An Introduction (SCQF level 6)

**CODE** F7HB 12

### SUMMARY

This Unit is suitable for candidates who aspire to a career in the Merchant Navy or in associated sea-going marine related occupations which involve going to sea in any type of vessel.

The Unit has been designed to provide the candidate with an understanding of basic ship layout and the different functions/operations on board a vessel. Candidates will also be able to identify different ship types and cargo handling features and then demonstrate an understanding of the various interactions between the various spaces within the vessel such as navigating bridge; cargo holds engine room and cargo control rooms.

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

### OUTCOMES

- 1 Demonstrate an understanding of shipboard layout.
- 2 Describe the function of a ship as a work and living place at sea and in port.
- 3 Demonstrate knowledge of different types of vessels in common use within the maritime sector.
- 4 Demonstrate knowledge of cargo handling operations onboard ship.

### 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 6 (6 SCQF credit points at SCQF level 6\*).

*\*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**

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.

*Numeracy: Using Graphical Information at SCQF level 5*

*Problem Solving: Critical Thinking at SCQF level 5*

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

### **UNIT        Shipboard Operations: An Introduction (SCQF level 6)**

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 an understanding of shipboard layout.

##### **Performance Criteria**

- (a) Identify correctly the main working, living and machinery areas of a vessel.
- (b) Describe accurately spaces within the vessel, necessary for cargo operations.
- (c) Explain correctly the purpose of cargo handling equipment on vessels.

#### **OUTCOME 2**

Describe the function of a ship as a work and living place at sea and in port.

##### **Performance Criteria**

- (a) Explain correctly the purpose and function of the navigating bridge, machinery, cargo and ballast spaces on a generic cargo ship and tanker.
- (b) Describe the function of a ship's machinery space.
- (c) Explain accurately the role of a ship's hotel services.
- (d) Describe correctly the relationship between the various shipboard spaces.
- (e) Describe correctly the possible effects of operational or accidental pollution on the marine environment.

#### **OUTCOME 3**

Demonstrate knowledge of different types of vessels in common use within the maritime sector.

##### **Performance Criteria**

- (a) Describe correctly the various types of vessels in common usage and their purposes.
- (b) Explain correctly the general arrangement of various types of vessels in common usage.
- (c) Describe accurately the major shipping routes and trading patterns for vessels in common usage.

#### **OUTCOME 4**

Demonstrate knowledge of cargo handling operations onboard ship.

##### **Performance Criteria**

- (a) Demonstrate correctly the types and purpose of cargo lifting equipment found on board ship.
- (b) Explain accurately the cargo handling operations for vessels engaged in the carriage of bulk liquid cargoes.
- (c) Describe accurately the cargo handling operations for vessels engaged in the carriage of dry/bulk cargoes.

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

### UNIT Shipboard Operations: An Introduction (SCQF level 6)

#### 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.

Assessments may be open-book, where the candidates are allowed to use pre-prepared notes, and should last no more than two hours. Evidence will consist of two tests in which the candidate will have to write short answers, draw and label sketches of ships, alternatively oral or on line assessments may be employed.

#### Outcome 1:

(a) Candidates should correctly identify 8 spaces from a range of 12 given below:

- |                             |                        |
|-----------------------------|------------------------|
| ◆ main deck                 | ◆ forecastle           |
| ◆ poop                      | ◆ navigating bridge    |
| ◆ galley                    | ◆ living accommodation |
| ◆ store rooms               | ◆ machinery spaces     |
| ◆ engine control room       | ◆ funnel               |
| ◆ steering gear compartment | ◆ chain locker         |

(b) Candidates should correctly identify 10 spaces from a range of 16 given below:

- |                  |                            |
|------------------|----------------------------|
| ◆ cargo spaces   | ◆ ballast tanks            |
| ◆ cofferdams     | ◆ fore and after peak      |
| ◆ fuel oil tanks | ◆ diesel and lub oil tanks |
| ◆ pump rooms     | ◆ cargo control room       |
| ◆ decks          | ◆ bulkheads                |
| ◆ bilges         | ◆ scuppers                 |
| ◆ hatch cover    | ◆ void spaces              |
| ◆ ventilators    | ◆ pipelines                |

#### Outcome 2:

Candidates should be able to explain the function of the navigating bridge, machinery, cargo and ballast spaces on a generic cargo ship and tanker. They should also be able to describe the function of the ship's machinery space and explain the role it plays in providing a ship's hotel services. They will also need to describe the relationship between the various shipboard spaces ie navigating bridge and machinery space; machinery space and cargo/ballast space; machinery space and areas providing hotel services. Candidates will also be expected to describe correctly the possible effects of operational or accidental pollution, which may occur during shipboard operations, on the marine environment.

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

### UNIT Shipboard Operations: An Introduction (SCQF level 6)

#### Outcome 3:

(a) Candidates should describe correctly the purpose of four of the following seven vessel types:

- ◆ cargo
- ◆ fishing
- ◆ leisure
- ◆ military
- ◆ offshore support
- ◆ passenger
- ◆ tugs and workboats

(b) Candidates should explain correctly with the aid of sketches the general arrangement of five of the following eight vessel types:

- ◆ general cargo
- ◆ gas carrier
- ◆ container
- ◆ offshore supply/standby
- ◆ oil tanker
- ◆ passenger
- ◆ roll-on/roll-off
- ◆ bulk carrier

(c) Candidates should describe accurately the major shipping routes and trading patterns for four of the six following vessel types:

- ◆ general cargo
- ◆ gas carrier
- ◆ container
- ◆ oil tanker
- ◆ bulk carrier
- ◆ roll-on/roll-off

#### Outcome 4:

(a) Candidates should give short answer questions from a sample of three of the following:

- Ships Derrick rigs
- Shipboard Cranes
- Travelling Gantry Cranes
- Shorebased cargo handling equipment (eg Bulk cargo/Container)
- Roll on Roll Off cargo handling equipment

Where sampling is used a different sample should be used on each assessment occasion.

(b) Candidates should explain correctly, in the form of short answer questions, how bulk liquid is transferred from shore facilities to the vessel for carriage and discharged from the vessels tanks to the receivers at the discharge port.

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

### **UNIT Shipboard Operations: An Introduction (SCQF level 6)**

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 layout of ships and the function of the principal components onboard, together with an appreciation of the relationships between the main operational areas on board. The Unit is also designed to provide the candidate with an understanding of the various types of vessel within the maritime sector, their roles, special features and typical trading patterns. The candidate will also be introduced to the topic of cargo handling and processes involved in the carriage of bulk liquid cargoes. Content associated with the Outcomes is specified by the Performance Criteria.

Candidates would normally be expected to be working towards the following units, or equivalent:

*F7HH 12: Maritime Industry: An Introduction*

*F7HC 12: Ship Construction and Stability: An Introduction*

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

Learning and teaching approaches can be enhanced by the use of internet websites depicting ships and shipboard operations, videos, photographs and models. A visit to a ship should be arranged if possible.

#### **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.

*Numeracy: Using Graphical Information at SCQF level 5*

In Outcomes 1, 3 and 4 candidates will be expected to identify ship types from outline diagrams and sketches plus within a particular ship type they will have to be able to identify the functions of the various compartments within the vessel.

*Problem Solving: Critical Thinking at SCQF level 5*

In Outcome 2 candidates will be asked to consider what precautions are required, on board a ship during the loading, discharging and carriage of liquid bulk cargoes to ensure that marine pollution does not occur.

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

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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)*.

#### **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](http://www.sqa.org.uk/assessmentarrangements).