



MARITIME SKILLS
SCQF level 5

First edition — published February 2010



National Course Specification

Maritime Skills (SCQF level 5)

COURSE CODE C269 11

COURSE STRUCTURE

This Course has five mandatory Units.

The mandatory Units are:

F8L0 11	<i>Seamanship: An Introduction</i> (SCQF level 5)	1 credit (40 hours)
F8KV 11	<i>Maritime Environment: An Introduction</i> (SCQF level 5)	1 credit (40 hours)
F8KR 11	<i>Small Boat Engineering</i> (SCQF level 5)	0.5credit (20 hours)
F8KT 11	<i>Health and Safety in the Maritime Sector</i> (SCQF level 5)	1 credit (40 hours)
F8KP 11	<i>Employability Skills and Careers in the Maritime Sector</i> (SCQF level 5)	0.5 credit (20 hours)

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

PROGRESSION

This Course or its Units may provide progression to:

- ◆ training/employment
- ◆ further education

Administrative Information

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National Course Specification: (cont)

COURSE Maritime Skills (SCQF level 5)

CREDIT VALUE

The SCQF level 5 Course in Maritime Skills is allocated 24 SCQF credit points at SCQF level 5*.

**SCQF points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification 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

Opportunities for developing aspects of Core Skills are highlighted in the Support Notes of the Unit Specifications for this Course.

There is no automatic certification of Core Skills or Core Skills components in this Course.

LINKS TO NATIONAL OCCUPATIONAL STANDARDS

National Occupational Standards (NOS) are developed by the key employment sectors of the United Kingdom. These standards set the competences required for job roles within a particular employment sector.

Standards are set by the Merchant Navy Training Board (MNTB) representing the employers of the Merchant Navy, the Maritime Skills Alliance (MSA), Maritime and Coastguard Agency and RYA. At present there are three suites of standards a) the NOS for Small Craft — non-pleasure vessels in inland waterways and coastal operations, b) NOS covering seagoing roles in the deck and engineer departments of merchant ships, harbour tugs and fishing vessels is ‘owned’ and maintained by the MNTB and Seafish Industry Authority (SFIA) and c) NOS for Shore-based Ship Management. There is a direct relationship between STCW 95 standards and NOS covering Merchant Navy roles. The Standards Setting Body — Ports Skills and Safety (PSS) have 5 suites of standards covering Harbour Masters, Marine Pilots and Port Operations. Also the Sector Board LANTRA has standards for Fisheries Management which includes standards for the preparation and operation of small craft.

The Units *Seamanship: An Introduction* (SCQF level 5) and *Small Boat Engineering* (SCQF level 5) within the Maritime Skills (SCQF level 5) Course through integrating activities broadly reflect underpinning knowledge and aspects of the National Occupational Standards:

- ◆ Manoeuvre un-powered vessels (MNTB)
- ◆ Operate vessel propulsion, auxiliary and service machinery and systems (MNTB)
- ◆ Contribute to vessel mooring, anchoring and securing operations (MNTB)
- ◆ Control the launch and recovery of vessels (MNTB)
- ◆ Handle lines and secure vessels (MNTB)
- ◆ Prepare and operate small craft (LANTRA)

National Course Specification: (cont)

COURSE Maritime Skills (SCQF level 5)

The Unit *Health and Safety in the Maritime Sector* has aspects which broadly reflect the following standards:

- ◆ Take personal emergency action on board (MNTB)
- ◆ Locate, recover and transfer casualties in a marine environment (MNTB)
- ◆ Maintain personal health, safety and environmental standards on board a vessel (MNTB)
- ◆ Conduct an assessment of risks in the workplace (MNTB)
- ◆ Survive in water (PSS)

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

RATIONALE FOR SKILLS FOR WORK COURSES

Skills for Work Courses are designed to help candidates to develop:

- ◆ skills and knowledge in a broad vocational area
- ◆ Core Skills
- ◆ an understanding of the workplace
- ◆ positive attitudes to learning
- ◆ skills and attitudes for employability

A key feature of these Courses is the emphasis on *experiential learning*. This means learning through practical experience and learning by reflecting on experience.

Learning through practical experience

- ◆ Teaching/learning programmes should include some or all of the following:
 - learning in real or simulated workplace settings
 - learning through role play activities in vocational contexts
 - carrying out case study work
 - planning and carrying out practical tasks and assignments

Learning through reflecting at all stages of the experience

- ◆ Teaching/learning programmes should include some or all of the following:
 - preparing and planning for the experience
 - taking stock throughout the experience — reviewing and adapting as necessary
 - reflecting after the activity has been completed — evaluating and identifying learning points

The Skills for Work Courses are also designed to provide candidates with opportunities for developing *Core Skills* and enhancing skills and attitudes for *employability*.

Core Skills

The **five** Core Skills are:

- ◆ *Communication*
- ◆ *Numeracy*
- ◆ *Information and Communication Technology*
- ◆ *Problem Solving*
- ◆ *Working with Others*

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

Employability

The skills and attitudes for employability, including self-employment, are outlined below:

- ◆ *generic skills/attitudes valued by employers*
 - understanding of the workplace and the employee's responsibilities, for example time-keeping, appearance, customer care
 - self-evaluation skills
 - positive attitude to learning
 - flexible approaches to solving problems
 - adaptability and positive attitude to change
 - confidence to set goals, reflect and learn from experience

- ◆ *specific vocational skills/knowledge*
 - Course Specifications highlight the links to National Occupational Standards in the vocational area and identify progression opportunities

Opportunities for developing these skills and attitudes are highlighted in each of the Course and Unit Specifications. These opportunities include giving young people direct access to workplace experiences or, through partnership arrangements, providing different learning environments and experiences which simulate aspects of the workplace. These experiences might include visits, visiting speakers, role play and other practical activities.

A Curriculum for Excellence (Scottish Executive 2004) identifies aspirations for every young person. These are that they should become:

- ◆ successful learners
- ◆ confident individuals
- ◆ responsible citizens
- ◆ effective contributors

The learning environments, the focus on experiential learning and the opportunities to develop employability and Core Skills in these Courses contribute to meeting these aspirations.

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

RATIONALE FOR SCQF LEVEL 5 MARITIME SKILLS COURSE

The Maritime Skills (SCQF level 5) Course has been designed to provide candidates with opportunities to develop generic employability skills in the context of the maritime sector. The Course may also assist progression into further education and training/employment in the maritime sector. This sector includes commercial sea fishing, the Royal Navy, the Merchant Navy, Maritime Search and Rescue, marine leisure, ports and harbours. The Course will allow candidates to start to develop the general and practical skills, knowledge and understanding and employability skills needed to work in the sector.

The primary target group for this Course is school candidates in S3 and above. It is anticipated that the Course will rely upon and build on partnerships between schools, further education colleges, employers and other training organisations. These partnerships will enable the Course to be delivered in a variety of appropriate learning environments with access to relevant teaching expertise. The Course is also suitable for candidates who are seeking to enhance their general employability and /or vocational skills in the maritime sector.

The knowledge and experiences acquired by the candidates will help to develop transferable employability skills and will also prepare them to work within the context of the maritime sector within Scotland.

The general aims of the Course are to:

- ◆ develop generic employability skills
- ◆ allow candidates to experience vocationally-related learning
- ◆ encourage candidates to foster a good work ethic, including timekeeping, a positive attitude and other relevant employability skills
- ◆ provide opportunities to develop aspects of a range of Core Skills in a realistic context
- ◆ encourage candidates to take charge of their own learning and development
- ◆ provide a range of teaching, learning, and assessment experiences to motivate candidates to achieve their full potential
- ◆ facilitate progression to further education and/or training and/or employment

In particular, the aims of the Course are to:

- ◆ provide candidates with a broad introduction to the world of work
- ◆ allow candidates the opportunity to develop skills relevant to the world of work
- ◆ develop the candidates' maritime skills
- ◆ give candidates an opportunity to explore a career in the maritime sector
- ◆ provide opportunities for the personal development of skills and attitudes which will improve the candidates' employment potential within the maritime sector
- ◆ develop an awareness of what opportunities there may be within the sector in terms of the types and range of career options
- ◆ provide candidates with knowledge and skills which are directly relevant to employment within the maritime sector
- ◆ develop the candidates' awareness of their individual strengths and weaknesses in relation to employment in general and the requirements of the sector, and to reflect on how this affects their employability potential

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

COURSE CONTENT

Summary of Course content

The Course provides a broad experiential introduction to maritime skills.

Candidates will explore a variety and range of career opportunities — local, national and global in the maritime sector including commercial sea-fishing, the Royal Navy, the Merchant Navy, Inland waterways and marine leisure, ports and harbours. They will be introduced to the operation of boats and their equipment in the Unit *Seamanship: an Introduction* (SCQF level 5). Boat handling, the use of ropes, wires and chains and effective anchoring, mooring and the securing of a vessel are tackled in the practical situation. An introduction is given to marine navigation where candidates learn how to use a marine chart to plot the position of a vessel using standard marine instruments and how to take account of the weather in all aspects of the marine industry. The safety aspects of any job in the maritime sector are tackled in the Unit *Health and Safety in the Maritime Sector* (SCQF level 5). Safe working practices on board ship, the life saving principles, basic first aid and basic fire safety are considered. The basic engineering involved with small boats such as pumping and steering mechanism are reviewed and the routine care and maintenance of the engine and auxiliaries on a boat are considered practically.

Central to the Course is developing the employability skills valued by employers in general and necessary for effective work in the maritime sector. These skills are embedded in the different Units providing candidates with the opportunity to practice and develop these skills through practical and team-working activities in real or simulated working environments and investigations throughout the Course. Candidates will also be involved in self-evaluation of these skills, seeking feedback from others, identifying areas of improvement, taking account of feedback received and reviewing their progress throughout the Course.

The following employability skills are key to the Course and opportunities to develop and assess them are available through the nature of the activities and tasks built into the Course:

- ◆ 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 requirements 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

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

The Units of the Course have been designed to be delivered in an integrated way and guidance on a suggested teaching pattern is given in this Course Specification.

Summary of Unit content

The five mandatory Units in this Course are:

Seamanship: An Introduction (SCQF level 5) **1 credit (40 hours)**

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.

Maritime Environment: An Introduction (SCQF level 5) **1 credit (40 hours)**

The Unit develops the understanding of the weather and its effects on maritime activities in the United Kingdom. Charts are studied and basic navigation tasks are tackled to enable candidates to plot a course and calculate the distance between two points.

Small Boat Engineering (SCQF level 5) **0.5 credit (20 hours)**

This Unit introduces candidates to the basic engineering involved in small boats, for example: the construction of boats, the boat's method of propulsion, the steering of the boat, the types of engine, the differences between diesel fuel oil and petrol fuel oil, the uses and differences of hydraulic oil and lubricating oil and the routine care and maintenance of engine and auxiliaries on a boat.

Health and Safety in the Maritime Sector (SCQF level 5) **1 credit (40 hours)**

The Unit will equip candidates with a basic understanding of health and safety issues, the safety procedures required for both working onboard a boat and in the maritime environment in general. They will be introduced to the process of carrying out an assessment of risk and learn how risks can be minimised through safe working practice. Practical survival in the water will be practiced and basic fire safety considered. The candidates will also be introduced to the knowledge and skills necessary to deal effectively with casualties who are injured or who suffer a sudden illness, prior to being placed in the care of medically qualified personnel.

Employability Skills and Careers in the Maritime Sector (SCQF level 5) **0.5 credit (20 hours)**

In this Unit, the sub-sectors and the career opportunities in the Maritime sector are investigated. Candidates will review their performance in specified employability skills and evaluate their own strengths and weaknesses throughout the Unit.

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

ASSESSMENT

To achieve the Course award the candidate must successfully achieve all the Units which make up the Course.

Assessment objectives

Assessment in this Course will allow candidates to demonstrate:

- ◆ generic employability skills
- ◆ knowledge and understanding of the maritime sector
- ◆ practical skills relevant to the maritime sector
- ◆ investigation skills
- ◆ review and self evaluation skills

The skills and attitudes being developed in this Course are assessed through an involvement in a range of practical activities, although, there are also elements of knowledge and understanding which are essential. An important element in the assessment process will be the ability of the candidate to review progress and development in specific employability skills throughout the Course. Assessment should reflect current workplace practice through real or simulated workplace activities.

Unit assessment

Seamanship: An Introduction (SCQF level 5)

1 credit

Written and/or recorded oral and performance evidence is required for this Unit.

- ◆ Written and/or recorded oral evidence is required which demonstrates knowledge and understanding of a safety checklist for a specific anchoring and mooring activity.
- ◆ Performance evidence generated by participation in practical activities for this assessment should be carried out in supervised conditions at required safety standards to provide evidence for the ability to handle a boat, work with ropes, wires and chains and to contribute to effective anchoring, mooring and securing of a vessel in a real or simulated maritime context.

The evidence will be produced at appropriate points throughout the Unit and gathered in a folio of evidence.

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

Maritime Environment: An Introduction (SCQF level 5)

1 credit

Written and/or recorded oral and performance evidence is required for this Unit.

- ◆ Written and/or recorded oral evidence is required which demonstrates knowledge and understanding of weather conditions and their effects on maritime activities and ability to monitor weather conditions.
- ◆ Performance evidence generated by participation in practical activities to provide evidence for the ability to carry out a basic navigation task on a marine chart should be carried out in supervised conditions.

The evidence will be produced at appropriate points throughout the Unit and gathered in a folio of evidence.

Small Boat Engineering (SCQF level 5)

0.5 credit

Written and/or recorded oral and performance evidence is required for this Unit.

- ◆ Written and/or recorded oral evidence is required which demonstrates knowledge and understanding of basic engineering and maintenance for a small boat.
- ◆ Performance evidence generated by participation in practical activities should be carried out in supervised conditions at required safety standards to provide evidence for the ability to carry out a routine maintenance task on a small boat in a real or simulated maritime context.

The evidence will be produced at appropriate points throughout the Unit and gathered in a folio of evidence.

Health and Safety in the Maritime Sector (SCQF level 5)

1 credit

Written and/or recorded oral and performance evidence is required for this Unit.

- ◆ Written and/or recorded oral evidence is required which demonstrates knowledge and understanding of basic fire safety within the maritime sector.
- ◆ Performance evidence generated by participation in practical activities for this assessment should be carried out in supervised conditions at required safety standards to provide evidence of survival in water and assessment, management and treatment of casualties within emergency situations in a real or simulated maritime context.
- ◆ Completion of a basic risk assessment.

The evidence will be produced at appropriate points throughout the Unit and gathered in a folio of evidence.

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

Employability Skills and Careers in the Maritime Sector (SCQF level 5) **0.5 credit**

Written and/or recorded oral and performance evidence is required for this Unit.

- ◆ Written and/or recorded oral evidence is required which demonstrates knowledge and understanding of the range of sub-sectors within the maritime sector and associated the career opportunities.
- ◆ Candidate reviews completed on four occasions detailing progress in relation to the development of specified employability skills valued by the maritime sector.

The evidence will be produced at appropriate points throughout the Unit and gathered in a folio of evidence.

Further details about Unit assessment for this Course can be found in the Unit Specifications and the National Assessment Bank (NAB) materials.

QUALITY ASSURANCE

The Units of all National Courses are subject to internal verification and may also be chosen for external verification by SQA. This is to ensure that national standards are being applied across all subjects.

To assist centres, Senior Verifier reports are published on SQA's website www.sqa.org.uk

GUIDANCE ON LEARNING/TEACHING AND ASSESSMENT APPROACHES FOR THIS COURSE

Suggested order/sequence of delivery

Centres should ensure that an induction to the Course is given, which will enable candidates to understand fully what is required and the approaches to be adopted. It is important that employability skills, both generic and specific to the maritime sector are emphasised at this time.

While individual centres should decide the sequence of delivery which is most appropriate to them it is suggested that the Unit *Employability Skills and Careers in the Maritime Sector* (SCQF level 5) is introduced early in the programme. Outcome 3 of this Unit requires candidates to review their employability skills and this should take place throughout the Course. It can be integrated with the other four Units in the Course to give opportunities for reviewing and evaluating these skills while studying the other Units in this Course. It is anticipated evidence for Outcome 3 of this Unit will be gathered throughout the Course. These opportunities will arise when candidates are undertaking:

- ◆ the practical activities in *Seamanship: An Introduction* (SCQF level 5)
- ◆ the practical activities in *Health and Safety in the Maritime Sector* (SCQF level 5)
- ◆ the investigation and presentation of information in *Small Boat Engineering* (SCQF level 5)
- ◆ the routine maintenance task in *Small Boat Engineering* (SCQF level 5)
- ◆ the case study in *Health and Safety in the Maritime Sector* (SCQF level 5)
- ◆ the mapping exercise in *Maritime Environment: An Introduction* (SCQF level 5)

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

It is suggested that the Unit *Health and Safety in the Maritime Sector* (SCQF level 5) is also delivered near the start of the Course as this considers the safety aspects of working in the maritime sector and thus prepares candidates for the practical aspects of the Unit *Seamanship: An Introduction* (SCQF level 5).

Learning and Teaching

The main approaches to learning in this Course should be experiential and candidate centred. Candidates should have the opportunity to learn and develop the practical aspects of seamanship if at all possible in a realistic work environment. Given the practical nature of teaching/learning and assessment, centres should ensure that teaching blocks are of sufficient time to allow a meaningful experience for candidates.

Schools should work in partnership with, for example, colleges and/or training establishments and/or employers. By allowing candidates to access a real work place or simulated environments, they will gain a much broader understanding of the working environment in general and in particular in the maritime sector. This will help them to develop positive attitudes towards the workplace. The development of such partnerships with colleges and/or training centres and/or employers is important for this Course.

Centres should ensure that an induction to each Unit as well as the induction to the Course as a whole is given. This will help candidates to understand what is required of them for each Unit and the approaches to be taken.

Teaching and learning should encourage candidates to take responsibility for their own learning and development. The integration of employability skills, in particular self-evaluation skills, will allow candidates to take responsibility for seeking feedback and identifying action points for improvement in their own performance. This should help to develop confidence in taking advice and in asking for direction and assistance where necessary.

As the Course is designed to be practical, each part of the learning and teaching should incorporate both theory and practice, to facilitate learning. This will assist candidates in understanding the application of knowledge and understanding to practical tasks. Health and safety is integral to all practical tasks and should be emphasised at the start of, and throughout, each session. Opportunities to develop aspects of Core Skills will arise naturally. For example, in order to carry out the activities in *Maritime Environment: An Introduction* (SCQF level 5) aspects of numeracy will be developed when making calculations for the chartwork. Communication skills will be developed in listening and speaking and in presentation of their folio on careers. Candidates will need to work with others in carrying out a task on a boat and hence the understanding of the required attitudes to ensure good group working dynamics will be developed. Aspects of problem solving will arise during practical work.

Candidates should be encouraged throughout the Course to use as many methods to gain the information required. Apart from teaching notes provided, they should make full use of the internet, journals (on-line and printed), books, national and local newspapers, workplace visits, friends and family who have knowledge or experience of the maritime sector. Candidates should be encouraged to play an active part in their own learning by discussing their own views and thoughts on the maritime sector, careers and personal preferences with peers and teaching staff.

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

Visiting speakers/visits

Centres are encouraged to develop links with employers and industry representatives who may be able to offer support in terms of visiting speakers and arranging visits to a port/harbour/marina/ship. Such visits will be helpful throughout the Course but maybe particularly helpful when investigating career routes and different job roles within the maritime sector and will provide candidates with a realistic view of jobs and conditions within the sector.

Health and Safety

Compliance with Health and Safety regulation is of paramount importance in this Course. Emphasis should always be on the practice of working safely and the extent of knowledge required by the candidates must be clearly defined and appropriate to SCQF level 5.

It is the centre's responsibility to produce risk assessments which set out the safe working/teaching and learning arrangements for teachers, support staff and candidates. Centres will be familiar with the requirements of the Health and Safety at Work Act, the Management of Health and Safety at Work Regulations, Control of Substances Hazardous to Health, Provision and Use of Work Equipment Regulations and other legislative requirements where risk assessments are necessary. (This list of statutes is not intended to be exhaustive, and centres must comply with all current relevant legislation whether listed or otherwise.)

Practical work

Within the skills-specific Units *Seamanship: An Introduction* (SCQF level 5), *Small Boat Engineering* (SCQF level 5), *Maritime Environment: An Introduction* (SCQF level 5) and *Health and Safety in the Maritime Sector* (SCQF level 5) candidates will produce evidence when completing practical activities. Candidates will first learn and practice the correct techniques and methods for each of the skills they undertake. Assessment of the various practical skills will take place at appropriate points throughout the Course.

Unit assessment

The Evidence Requirements for Units in the Maritime Skills (SCQF level 5) Course are fully expressed in the mandatory section in each Unit Specification.

A variety of approaches will be used for gathering evidence, reflecting the variety of learning experiences offered throughout the Course. These are:

- ◆ individual investigations
- ◆ practical activities such as: carrying out a risk assessment, handling a small boat, routine maintenance task on an engine, survival in water
- ◆ candidate reviews of specific employability skills
- ◆ written and/or recorded oral evidence produced by the candidates throughout the Units

National Course Specification: Course details (cont)

COURSE Maritime Skills (SCQF level 5)

The Course allows some integration of assessment across Units. An example would be the integration of Outcome 3 of the of *Employability Skills and Careers in the Maritime Sector* (SCQF level 5) when candidates are reviewing and evaluating their own performance in specified employability skills when they are undertaking the Units *Seamanship: An Introduction* (SCQF level 5), *Small Boat Engineering* (SCQF level 5), *Maritime Environment: An Introduction* (SCQF level 5) and *Health and Safety in the Maritime Sector* (SCQF level 5).

The National Assessment Bank pack (NAB) provided for each Unit within the Maritime Skills (SCQF level 5) Course illustrates the standard that should be applied. If a centre wishes to design its own assessments, they should be of a comparable standard.

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

National Course Specification: Course details

COURSE: Maritime Skills (SCQF level 5)

Appendix: Employability Skills Profile

In addition to the specific, vocational skills developed and assessed in this Course, employability skills are addressed as detailed in the table below. For the purposes of the table, the Units are referred to as A, B, C, D and E as indicated.

<i>Seamanship: An Introduction</i> (SCQF level 5)	=	A
<i>Maritime Environment: An Introduction</i> (SCQF level 5)	=	B
<i>Small Boat Engineering</i> (SCQF level 5)	=	C
<i>Health and Safety in the Maritime Sector</i> (SCQF level 5)	=	D
<i>Employability Skills and Careers in the Maritime Sector</i> (SCQF level 5)	=	E

Employability skill/attitude	Evidence
♦ Positive attitude and willingness to learn	B, C, D, E
♦ Maintaining good timekeeping and attendance	D, E
♦ Communication skills	B, C, D, E
♦ Ability to follow instructions	A, B, C, D, E
♦ Working cooperatively with others	A, D, E
♦ Working to agreed deadlines	B, C, E
♦ Showing respect and consideration for others	A, D, E
♦ Flexibility and adaptability	E
♦ Safe and appropriate handling of equipment	A, B, C, D, E
♦ Awareness of requirements of Health and Safety	A, C, D, E
♦ Understanding of Personal Survival Techniques	A, D, E
♦ Fire Safety Awareness	D, E
♦ Confidence to seek feedback	D, E
♦ Reflecting on own performance	E
♦ Review and self evaluation skills	E
♦ Understanding of the workplace	A, B, C, D, E

Assessment evidence in all Units:

- A = Performance evidence supported by assessor observational checklists, written and/or oral evidence.
- B = Folio containing investigation of basic maintenance of engines and engineering in small boats, performance evidence supported by assessor observational checklist.
- C = Folio containing investigation of weather and its effects, Performance evidence supported by assessor observational checklist.
- D = Risk assessment, case study, performance evidence supported by assessor observational checklists.
- E = An investigation which demonstrates knowledge and understanding of aspects of the maritime sector, Candidate reviews completed on four occasions detailing progress in relation to the development of specific employability skills valued by the maritime sector.



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.*

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National Unit Specification: general information (cont)

UNIT Seamanship: An Introduction (SCQF level 5)

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

UNIT Seamanship: 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 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)

UNIT Seamanship: An Introduction (SCQF level 5)

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)

UNIT Seamanship: An Introduction

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

UNIT Seamanship: 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 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)

UNIT Seamanship: An Introduction (SCQF level 5)

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)

UNIT Seamanship: An Introduction (SCQF level 5)

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



National Unit Specification: general information

UNIT Maritime Environment: An Introduction (SCQF level 5)

CODE F8KV 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. It may be offered as a free-standing Unit.

The Unit 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 develops understanding of the weather and its effects on maritime activities in the United Kingdom. Basic navigation tasks are also tackled to enable candidates to plot a course and calculate the distance between two points. This Unit has been designed for candidates in S3 or above but may also be suitable for other candidate groups.

OUTCOMES

- 1 Investigate weather conditions and their effects in the context of the U.K. maritime sector.
- 2 Monitor weather conditions and their effects on maritime activities.
- 3 Perform basic navigation tasks on a marine chart.

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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National Unit Specification: general information (cont)

UNIT Maritime Environment: An Introduction (SCQF level 5)

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

UNIT Maritime Environment: 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

Investigate weather conditions and their effects in the context of the United Kingdom maritime sector.

Performance Criteria

- (a) Identify and describe the effects that different weather conditions have on specific maritime activities.
- (b) Identify and describe the effects of high and low air pressure on weather experienced by the maritime sector in the United Kingdom.
- (c) Identify and describe the effects of different wind speeds on surface conditions in the context of the maritime sector.
- (d) Identify and describe a variety of sources of weather information for the United Kingdom maritime sector.

OUTCOME 2

Monitor weather conditions and their effects on maritime activities.

Performance Criteria

- (a) Accurately record specific information on weather conditions over a set period of time.
- (b) Identify the effects that these weather conditions will have on specific maritime activities correctly.

OUTCOME 3

Perform basic navigation tasks on a marine chart.

Performance Criteria

- (a) Correctly identify symbols on a specific marine chart.
- (b) Plot given positions on the chart.
- (c) Plot the true course between two specific points on the chart correctly.
- (d) Calculate the compass course between these two points.
- (e) Calculate the distance between the two points correctly, taking account of the chart scales.

National Unit Specification: statement of standards (cont)

UNIT Maritime Environment: An Introduction (SCQF level 5)

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 and 2 — Folio

Candidates will investigate independently, to a given brief, the weather and its effects of maritime activities. The information gathered will be contained in a folio and progress discussed with the teacher/lecturer at an appropriate point during the investigation to ensure the folio is the candidate's own work. A record of the discussion should be retained.

For Outcome 1 candidates will be given a clear investigation brief informing them that the evidence for the folio must cover an identification and description of:

- ◆ the effects of high and low air pressure systems on weather experienced in the United Kingdom. This must include the typical pattern of a depression and an anticyclone and the weather produced.
- ◆ the effects of wind speeds — Beaufort scale — on surface conditions in open water and sheltered water.
- ◆ **two** sources of weather information for the United Kingdom maritime sector to include a synoptic chart and one other from the radio or internet. The description should include the type of information that can be gained from the particular source.
- ◆ the effects that the following weather conditions have on **one** maritime activities:
 - storm/gale force winds
 - fog
 - heavy rain
 - Snow
 - offshore winds
 - onshore winds.

Resources may be shared but candidates must gather information individually. Examples of maritime activities that could be considered are a boat at sea, loading or discharging a boat at the dockside or tourist related activities.

For Outcome 2 candidates should maintain a log book with the recordings of weather conditions. The records should include temperature, wind speed in miles per hour and on the Beaufort scale, wind direction, air pressure, rainfall, extent of cloud cover and visibility. The recording should be carried out on **six** different occasions.

For each set of records the candidate should identify individually the effects of the ambient weather on **one** maritime activity, for example, a boat at sea, loading or unloading a boat at the dockside or tourist related activities. Candidates may have access to notes and information which will help them identify the effects on one maritime activity.

National Unit Specification: statement of standards (cont)

UNIT Maritime Environment: An Introduction (SCQF level 5)

Outcome 3 — Performance evidence

Candidates, using the given brief, are required to demonstrate by a practical mapping exercise using parallel rulers and dividers that they are able to:

- ◆ identify six of following symbols on a specific marine chart: Lighthouse, Wreck, Sounding, Floating Navigation mark, Drying height, tidal diamond, compass rose, traffic separation scheme, anchorage, offshore oil platform, elevation, Rock.
- ◆ plot a position on the chart from (i) longitude and latitude co-ordinates (ii) range and bearing from a charted feature correctly.
- ◆ plot the true course between two specific points on the chart correctly.
- ◆ calculate the compass course between these two points correctly.
- ◆ calculate the distance between the two points correctly, taking account of the chart scales.

The evidence is to be gathered at an appropriate point in the Unit under supervision and in closed-book conditions.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It includes exemplar folio briefs, marking schedules for Outcomes 1 and 3 and a checklist for Outcome 2. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

UNIT Maritime Environment: 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 is a mandatory Unit of the Maritime Skills SCQF level 5 Course. The Unit develops the understanding of the weather and its effects on maritime activities in the United Kingdom. Basic navigation tasks are also tackled to enable candidates to plot a course and calculate the distance between two points.

In Outcomes 1 and 2 the candidates will be introduced to the important impact that weather has on all aspects of the maritime industry. They will learn about the dangers faced in bad or inclement weather and how these can be avoided. They will also be introduced to simple weather systems and their formation plus how to recognize these on weather charts using internationally recognised symbols. The recording of the weather will require the delivering centre to have access to certain measuring instruments such as a barometer, thermometer, rain gauge and anemometer.

In Outcomes 3 candidates will develop knowledge and understanding of terrestrial coordinate systems and their relevance to a maritime chart. They will learn how to use a maritime chart to plot the position of a vessel, a true course between two points and the compass course. The distance between two points is calculated.

Candidates will learn about the properties of the marine compass and the magnetic field of the earth. They will be able to describe the difference between True North and Compass North and how this affects the navigation of all vessels. Using given simple maths mnemonics they will be able to convert a compass course to a true course and vice versa.

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 awareness
- ◆ 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*

National Unit Specification: support notes

UNIT Maritime Environment: An Introduction (SCQF level 5)

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.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

It is important to ensure that the teacher/lecturer provides candidates taking this Unit with guidance on gathering information on the weather and its effects on the maritime sector. Candidates will need access to a variety of resources in order to collect information about the weather and its effects. This may come from the following examples — newspapers, magazines, websites, and books. The use of the internet, CD ROMS, DVDs and videos and talking to people who work in the maritime sector are all good sources of information. Features on a synoptic chart such as low and high pressure systems, warm and cold fronts and an occluded front should be considered and how these can lead to forecasting the possible weather. Forecasts of weather may be obtained for example from the radio — general and shipping forecasts, television, internet, Meteorological Office. Candidates could try to forecast the following day's weather from a synoptic chart and check as to whether their prediction were accurate. Checking how accurate the weather forecast from the internet is could be another useful exercise to develop candidates understanding of the information provided about the weather.

Marine charts must be used extensively in the delivery of Outcome 3. Candidates must have access to parallel rulers, dividers and drawing compasses and the safe usage of these standard instruments must be ensured.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will perform calculations and take measurements on navigational charts. These activities provide opportunities to develop aspects of the Core Skill of *Numeracy*.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

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

This should take the form of the following written and/or oral recorded evidence.

To ensure the written and/or recorded oral evidence produced as a result of investigation is the candidate's own work, the content should be discussed with the teacher/lecturer at an appropriate point in the investigation and a record of the discussion should be retained. Assessors, where possible, should give candidates the choice as to their preferred method of submission. The evidence could be in the format of for example, written information, diagrams, charts, graphical information.

All candidates must have access to a chart, parallel rulers, dividers and drawing compasses for the mapping exercise for the assessment of Outcome 3.

Written and/or recorded oral evidence and checklists should be retained in the candidate's folio.

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. If centres wish to develop their own assessment instruments these should be of a comparable standard to those contained in the NAB.

National Unit Specification: support notes (cont)

UNIT Maritime Environment: An Introduction (SCQF level 5)

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 provided for this Unit illustrates the standard that should be applied. It includes exemplar folio briefs, marking schedules for Outcomes 1 and 3 and a checklist for Outcome 2. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

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



National Unit Specification: general information

UNIT Small Boat Engineering (SCQF level 5)

CODE F8KR 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.

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 introduces candidates to the basic engineering involved in small boats, for example: the construction of boats, the boat's method of propulsion, the steering of the boat, the types of engine, the differences between diesel fuel oil and petrol fuel oil, the uses and differences of hydraulic oil and lubricating oil and the routine care and maintenance of engine and auxiliaries on a boat. This Unit has been designed for candidates in S3 or above but may also be suitable for other candidate groups.

OUTCOMES

- 1 Investigate basic engineering and maintenance involved in small boats.
- 2 Present information on the basic engineering involved in small boats to a given brief.
- 3 Perform a routine maintenance task for the engine of a small boat.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

0.5 credit at SCQF level 5 (3 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.*

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National Unit Specification: general information (cont)

UNIT Small Boat Engineering (SCQF level 5)

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

UNIT Small Boat Engineering (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

Investigate basic engineering and maintenance involved in small boats.

Performance Criteria

- (a) Gather information on different methods and materials for the construction of small boats.
- (b) Gather information on steering systems and pumping equipment in small boats.
- (c) Gather information on the means of propulsion and the working cycles of engines used in small boats.
- (d) Gather information on the maintenance of engines in small boats.

OUTCOME 2

Present information on the basic engineering involved in small boats to a given brief.

Performance Criteria

- (a) Plan the presentation in line with the given brief.
- (b) Select appropriate information as detailed in the plan.
- (c) Present the information in accordance with the plan.
- (d) Complete the presentation within deadlines set out in the brief.

OUTCOME 3

Perform a routine maintenance task for the engine of a small boat.

Performance Criteria

- (a) Check the oil level in a small boat engine.
- (b) Select the correct fluid to top up the engine.
- (c) Top up the oil to the correct level.
- (d) Follow all the Health and Safety guidelines throughout the maintenance task.

National Unit Specification: statement of standards (cont)

UNIT Small Boat Engineering (SCQF level 5)

EVIDENCE REQUIREMENTS FOR THIS UNIT

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

Performance and product evidence will be supported by assessor checklists. The performance evidence will be generated from practical activities carried out under supervised conditions at the required safety standards.

The evidence may be gathered at different points throughout the Unit.

Outcomes 1 and 2 — Folio

Candidates will investigate independently, to a given brief, the basic engineering and maintenance involved in small boats in supervised conditions. Resources may be shared but candidates must gather information individually. The information gathered will be contained in a folio and progress discussed with the teacher/lecturer at an appropriate point during the investigation to ensure the folio is the candidate's own work. A record of the discussion should be retained.

Candidates will be given a clear investigation brief informing them that the evidence for the folio must cover:

- ◆ two materials used for constructing a boat from: wood, steel, glass reinforced plastic and moulded rubber boat.
- ◆ two basic methods of joining and fabricating different construction materials from welding for steel, riveting where two different metals are used, wooden wedges or carvel built wooden boats, mould fabrication for GRP and inflatable rubber boats.
- ◆ basic steering systems and their maintenance — the basic outboard steering and one plunger hydraulic system.
- ◆ The importance of keeping a vessel free of water and means of removal from the vessel.
- ◆ the means of propulsion of two different small boats.
- ◆ identification of the parts of engine and propulsion system. The basic parts to include piston, connecting rod, crank shaft, cylinder head, oil sump, exhaust and air inlet. This could be on, for example, a drawing or labelled picture.
- ◆ the basic differences between diesel and petrol engine with regard to principle of working.
- ◆ the working cycle of a two stroke and a four stroke engine. This could be, for example, in the form of block diagrams.
- ◆ the importance of and reason for lubricating and cooling the engine.
- ◆ the purpose of filtering of air and oil in the system.

Using the information gathered candidates will plan a presentation, select information and present the information in accordance with the plan. Candidates will be given a clear presentation brief with given timescales informing them that the evidence for the Outcome must include:

National Unit Specification: statement of standards (cont)

UNIT Small Boat Engineering (SCQF level 5)

- ◆ a written plan of how they will present the information.
- ◆ written and/or oral presentation on one of the following topics:
 - the construction of a small boat
 - the steering systems and pumping equipment in small boats
 - the means of propulsion and the working cycles of engines used in small boats.

Candidates should be provided with a template to aid the planning process. The evidence may be in the form of, for example, a written and/or oral report, an information leaflet, poster or audio-visual / electronic presentation.

Outcome 3 — Performance evidence

Candidates will be required to demonstrate by practical activity on a minimum of one occasion that they are able to:

- ◆ select the correct fluid for a given engine from: diesel oil, petrol, hydraulic oil and lubricating oil.
- ◆ check the oil level in an engine and top it up to the correct level.
- ◆ follow the correct safety procedures before attempting to fill/top up oil/water for cooling system and throughout the activity.

An assessor observation checklist must be retained to provide evidence of performance for Outcome 3.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It includes an example Folio brief, presentation brief, an assessor checklist and an observation checklist. Centres wishing to design and develop their own assessments for this Unit, they should be of a comparable standard, and should refer to the NAB for verification prior to use. It is recommended that these are submitted to SQA for approval.

National Unit Specification: support notes

UNIT Small Boat Engineering (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 20 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit introduces candidates to the basic engineering involved in small boats, for example: the construction of small boats, the boat's method of propulsion, the steering of the boat, the types of engine, the differences between diesel fuel oil and petrol fuel oil, the uses and differences of hydraulic oil and lubricating oil and the routine care and maintenance of engine and auxiliaries on a boat. For the purpose of this Unit, a small boat is classified as, for example a small fishing or ferry boat, a rubber inflatable boat (RIB), a yacht.

During this Unit, in addition to the specific vocational skills developed and assessed, candidates will be given 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)

UNIT Small Boat Engineering (SCQF level 5)

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The content of the Unit may be illustrated with drawings, diagrams and pictures of different parts of engines and boat construction, however the use of actual engines and boat models to explain the different methods and materials for construction of a boat, the parts of an engine, steering systems and pumping arrangements and the means of propulsion would enhance the delivery of the Unit. The use of various software based animated programmes to demonstrate the working of different types of engines would aid an understanding for Outcome 3. Videos may also be used to introduce the requirements for maintenance of an engine however candidates are required to be able to check oil levels in an engine and to demonstrate the correct safety procedures before attempting to maintain a cooling system. Candidates should be able to distinguish between petrol, diesel oil, hydraulic oil and lubricating oil for the purposes of maintenance of an engine.

Small boat visits could be arranged for a physical demonstration of propulsion and steering system, which may include a small manoeuvre if practicable safely. Both manual and battery powered self starting procedures of the engine should be explained and demonstrated.

Visits to boat building yards and/or the video demonstration of construction of a boat will aid the understanding of Outcome 1.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

During the production of the folio of evidence there may be opportunities to develop aspects of the Core Skill of *Communication*. While completing the practical activity for Outcome 3 there may be opportunities to develop aspects of the Core Skill of *Problem Solving*.

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 and 2 — Folio

Candidates must be given a clear brief with time scales for completion to ensure that all the Evidence Requirements are understood by the candidate. The folio must cover all the Evidence Requirements specified. A template for the plan of the presentation should be given to the candidates to ensure all aspects of planning are covered. The candidate's presentation may take the form of a written and/or oral report, an information leaflet, a poster or Audio-visual / electronic presentation. Oral evidence must be supported by an assessor checklist.

National Unit Specification: support notes (cont)

UNIT Small Boat Engineering (SCQF level 5)

Outcome 3 — Performance evidence

The practical activity used must enable a candidate to demonstrate that they can check the oil level in an engine, select the correct fluid by distinguishing between diesel oil, petrol, hydraulic oil and lubricating oil and employ the correct safety procedures when attempting to fill/top up oil/water for a cooling system in an engine. A checklist must be used and retained by the assessor to record the observation of performance of the candidate.

The Candidate Review for Outcome 3 of *Employability Skills and Careers in the Maritime Sector* (SCQF level 5) could be integrated with the assessment of this Unit, if candidates are taking it as part of the Maritime Skills (SCQF level 5) Course.

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 provided for this Unit illustrates the standard that should be applied. It includes a folio brief, an assessor checklist and an observation checklist. Centres wishing to design and develop their own assessments for this Unit, they should be of a comparable standard, and should refer to the NAB for verification prior to use. It is recommended that these are submitted to SQA for approval.

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



National Unit Specification: general information

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

CODE F8KT 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 also be offered as a free-standing Unit.

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. The Unit will equip candidates with a basic understanding of health and safety issues, the safety procedures required for both working onboard a boat and in the maritime environment in general. They will be introduced to the process of carrying out an assessment of risk and learn how risks can be minimised through safe working practice. Practical survival exercises will be practised and basic fire safety considered. The candidates will also be introduced to the knowledge and skills necessary to deal effectively with casualties who are injured or who suffer a sudden illness, prior to being placed in the care of medically qualified personnel. This Unit has been designed for candidates in S3 or above but may also be suitable for other candidate groups.

OUTCOMES

- 1 Carry out a risk assessment in a maritime sector environment.
- 2 Participate in a practical survival activity in a given role
- 3 Demonstrate the assessment, management and treatment of casualties within emergency situations in a maritime context.
- 4 Demonstrate knowledge and understanding of basic fire safety within the maritime sector.

RECOMMENDED ENTRY

Entry is at the discretion of the centre

Administrative Information

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National Unit Specification: general information (cont)

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

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.*

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

UNIT Health and Safety in the Maritime Sector (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

Carry out a risk assessment in a maritime sector environment.

Performance Criteria

- (a) Identify the main hazards in a given area in a maritime sector environment.
- (b) Identify the risks associated with these hazards.
- (c) Describe appropriate control measures to minimise these identified risks.

OUTCOME 2

Participate in a practical survival activity in a given role.

Performance Criteria

- (a) Put on a life jacket correctly.
- (b) Enter and exit the water taking account of the safety of others.
- (c) Work cooperatively with others to enhance the chances of survival.
- (d) Follow all the health and safety guidelines throughout the activity.
- (e) Follow all instructions given during the evacuation.

OUTCOME 3

Demonstrate the assessment, management and treatment of casualties within emergency situations in a maritime context.

Performance Criteria

- (a) Correctly assess the nature of the specific emergency situation.
- (b) Take appropriate action to address the situation.
- (c) Follow all Health and Safety Guidelines throughout.

OUTCOME 4

Demonstrate knowledge and understanding of basic fire safety within the maritime sector.

Performance Criteria

- (a) Explain the correct procedures to follow on detecting the fire.
- (b) Explain the procedures it is necessary to take during the fire.
- (c) Identify an appropriate extinguishing agent for the fire.

National Unit Specification: statement of standards (cont)

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence must be produced to demonstrate that all Outcomes and Performance Criteria have been achieved.

Performance evidence will be supported by assessor checklists. The performance evidence will be generated from practical activities carried out under supervised conditions at the required safety standards.

The evidence may be gathered at appropriate points throughout the Unit

Outcome 1 — Risk assessment

A basic risk assessment completed by the candidate is required to demonstrate achievement of this Outcome. Candidates should undertake a basic risk assessment in **one** given area on **one** occasion. Candidates will be given an appropriate risk assessment template. The basic risk assessment will be carried out in a real or simulated setting under supervision at an appropriate point in the Unit. Examples of suitable areas are given in the Support Notes in this Unit Specification.

Outcome 2 — Performance evidence

Candidates will be required to demonstrate by a practical survival activity under supervision that they are able to:

- ◆ correctly put on a lifejacket on one occasion
- ◆ while wearing a lifejacket enter and exit the water in the correct manner
- ◆ while wearing a lifejacket swim to a designated point and form a survival circle
- ◆ while wearing a lifejacket tow an injured casualty to safety
- ◆ work cooperatively with others to take appropriate actions to enhance the chance of survival
- ◆ follow all health and safety guidelines throughout the activity

An assessor observation checklist must be used to record the candidate's performance and to provide evidence of performance for Outcome 2.

Outcome 3 — Performance evidence

Candidates will be required to demonstrate by practical activity under supervision the appropriate assessment, management and treatment of casualties. Candidates should be given a clear brief prior to the activity, detailing the skills they will be required to demonstrate. They should not be told which injuries or conditions they will be dealing with in advance and should not have access to textbooks, notes or manuals during the assessment.

National Unit Specification: statement of standards (cont)

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

Performance evidence must cover:

- ◆ the assessment, management and treatment of one casualty with one of the injuries listed:
 - burns and scalds which may include injuries caused by electric current
 - control of bleeding
- ◆ the assessment, management and treatment of one casualty with one of the following: shock, choking, asthma
- ◆ the simulated resuscitation of an adult performed on a dummy
- ◆ the placing of someone in the recovery position

An assessor observation checklist must be used to record the candidate's performance to provide evidence for Outcome 3. If reassessment is required, the evidence should relate to a different injury or condition.

Outcome 4 —Written and/or oral — Case Study

Candidates are required to produce evidence in the form of written and/or oral recorded responses to questions based on a specific case study on their own under supervision at an appropriate point in the Unit when it is considered candidates have achieved the underpinning knowledge and understanding.

The case study with questions must enable candidates to explain the correct procedures to follow when the fire has been detected and to take during the fire. An appropriate extinguishing agent for the fire must also be identified.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It includes a risk assessment brief and template for Outcome 1, candidate briefs for Outcomes 2 and 3 for the performance evidence with assessor observation checklists, an exemplar case study with a marking schedule for Outcome 4. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

UNIT Health and Safety in the Maritime Sector (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

The Unit will equip candidates with a basic understanding of the safety procedures required for both working onboard a boat and in the maritime environment in general. The candidate will be introduced to the process of carrying out an assessment of risk and to how risks can be minimised through safe working practice. Practical boat evacuation will be practised and basic fire safety considered. The candidates will also be introduced to the knowledge and skills necessary to deal effectively with casualties who are injured or who suffer a sudden illness, prior to being placed in the care of medically qualified personnel.

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

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

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 by the appropriate competent person. 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. Compliance with Health and Safety regulation is of paramount importance in this Course. It is the centre's responsibility to produce risk assessments which set out the safe working/teaching and learning arrangements for teachers, support staff and candidates.

The Unit covers vocational activities elements with a high degree of practicality. The learning and teaching should involve practical demonstrations and activities. A variety of methods could be used to help candidates learn by integrating their theoretical knowledge with the development of practical skills, for example: practical exercises in small groups, discussion of case studies in groups or pairs, worksheets, individual, paired or group research using a variety of resources such as the internet.

As part of the learning and teaching for Outcome 1, scenarios could be devised demonstrating hazards and risks within the maritime sector environment and candidates could be asked to identify these in groups and then decide as a group how these risks could be minimised or prevented. This would be good preparation for assessment. It is essential that candidates experience health and safety as an interactive process and delivery should be based on practical scenarios whenever possible.

In the underpinning knowledge for Outcome 2, emergency situations which may require abandonment of a boat such as collision, fire, foundering should be considered. The various types of life-saving appliances, the equipment in a survival craft such as location aids, eg flares, EPIRB, SART and VHF Radio and the principles concerning survival at sea — value of drills and training, actions before and after abandonment and the main dangers to survivors should be considered.

As this Unit is taught in the context of current Health and Safety Executive Guidelines, it is important that teachers/lecturers and candidates are familiar with current theory and practical procedures as stated in these Guidelines. There are a number of manuals, DVDs and CD ROMs available. The internet may also prove a good resource for the most up-to-date information on current Guidelines. The resuscitation of adults must include: the breathing and circulation process, life-saving properties, identification of responsiveness, opening the airway, checking the breathing, the recovery position and cardio pulmonary resuscitation (CPR). This exercise should be simulated with a dummy however the correct use and practice of the recovery position should be carried out on a live subject. The use of techniques, equipment, dressings and bandages and the treatment of such injuries and conditions as listed should be covered in practical sessions. The injuries and conditions that should be considered are detailed in the Evidence Requirements.

In the development of fire awareness in Outcome 4, candidates could consider the implications of a fire on board a boat. The importance of Emergency duties, Fire Control plans, Fire patrols and the General alarm should be considered. The fire triangle, types and sources of ignition, ignition temperatures, spontaneous ignition, fire extinguishers and their suitability, the use of various types of portable fire extinguishers could be investigated. Precautions to avoid injury on detecting a fire, movement in vicinity of a fire, the dangers of smoke inhalation and re-ignition and smoke extraction should also be considered.

National Unit Specification: support notes (cont)

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit, candidates may work in groups. This will give rise to opportunities for the development of aspects of *Working with Others* and *Communication*. The aspects of the Core Skill of *Problem Solving* may be developed if candidates involve themselves in the critical thinking required for complying with onboard safety and first aid.

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. Candidates should be given a clear indication of the requirements of assessment for the Unit. Assessment should be carried out appropriate points in the delivery of the Unit when candidates are considered to have developed the underpinning appropriate knowledge and understanding.

In Outcome 1, an area that is typical of that in the maritime sector such as a deck of a boat should be provided to enable candidates to carry out a realistic simulated basic risk environment, however the area may be generic such as a kitchen (galley), maintenance area (engine room) or store room (hold). Candidates should be provided with an appropriate template for the risk assessment.

In the assessment of Outcome 2, candidates should be given a clear indication of the requirements of the assessment before undertaking the activities in the form of a brief. An assessor observation checklist must be used to record performance.

For Outcome 3, an appropriate Instrument of Assessment would be practical activities which include the resuscitation exercise with a dummy requires the breathing and circulation process, life-saving proprieties, identification of responsiveness, opening the airway, checking the breathing, the recovery position and cardio pulmonary resuscitation (CPR). The recovery position must be demonstrated using a live subject. The injuries and conditions that should be assessed are detailed in the Evidence Requirements. An assessor observation checklist must be used to record performance.

The case study for Outcome 4 should be set in a realistic maritime sector environment for example a fire in the engine room on board a boat or a fire in a yacht in a marina. The case study may be presented in a written and/ or oral or audio-visual form.

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)*.

National Unit Specification: support notes (cont)

UNIT Health and Safety in the Maritime Sector (SCQF level 5)

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It includes a risk assessment brief and template for Outcome 1, candidate briefs for Outcomes 2 and 3 for the performance evidence with assessor observation checklists, an exemplar case study with a marking schedule for Outcome 4. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

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



National Unit Specification: general information

UNIT Employability Skills and Careers in the Maritime Sector
(SCQF level 5)

CODE F8KP 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.

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. Candidates will investigate the sub-sectors and the career opportunities in the Maritime sector. Candidates will review their performance in specified employability skills and evaluate their own strengths and weaknesses throughout the Unit. This Unit has been designed for candidates in S3 or above but may also be suitable for other candidate groups.

OUTCOMES

- 1 Investigate a range of sub-sectors within the maritime sector.
- 2 Investigate career opportunities within the maritime sector.
- 3 Review and evaluate own performance in specified employability skills.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

0.5 credit at SCQF level 5 (3 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

Superclass: ZF

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National Unit Specification: general information (cont)

UNIT Employability Skills and Careers in the Maritime Sector
(SCQF level 5)

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

UNIT Employability Skills and Careers in the Maritime Sector (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

Investigate a range of sub-sectors within the maritime sector.

Performance Criteria

- (a) Identify the sub-sectors within the maritime sector.
- (b) Identify and describe specific job roles within two sub-sectors.
- (c) Identify the responsibilities associated with these job roles.

OUTCOME 2

Investigate career opportunities within the maritime sector.

Performance Criteria

- (a) Identify and describe different career paths within the maritime sector.
- (b) Identify and describe a range of career opportunities within the maritime sector.
- (c) Identify and describe the training, qualifications and experience needed for specific careers in that sub-sector.

OUTCOME 3

Review and evaluate own performance in specified employability skills.

Performance Criteria

- (a) Identify own strengths and weaknesses in relation to specified employability skills.
- (b) Seek feedback on own performance in specified employability skills.
- (c) Identify action points for improvement of own performance taking account of review and feedback.

National Unit Specification: statement of standards (cont)

UNIT Employability Skills and Careers in the Maritime Sector
(SCQF level 5)

EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required to demonstrate that the candidate has achieved all Outcomes and Performance Criteria. The evidence for this Unit will be generated by a folio for Outcome 1 and 2 and by candidate reviews for Outcome 3.

Outcome 1 and 2 — Folio

Candidates will investigate a range of sub-sectors and career opportunities within the maritime sector, to a given brief, at appropriate points throughout the Unit. The information gathered will be contained in the folio. Progress will be discussed with the teacher/lecturer at an appropriate point during the investigation to ensure that the folio is the candidate's own work. A record of the discussion should be retained.

Candidates will be given a clear investigation brief informing them that the evidence for the folio must contain:

- ◆ a list of the five sub-sectors of the maritime sector
- ◆ a description of three job roles from two sub-sectors of the maritime sector at least one from each sub-sector
- ◆ a description of two responsibilities from one identified job role
- ◆ a description of two career paths from two sub-sectors of the maritime sector — one from each sub-sector
- ◆ a description of three career opportunities available in the maritime sector
- ◆ a description of the training, qualifications and experience required for two of these career opportunities in the maritime sector

Evidence for the folio should be gathered by candidates on their own at appropriate points throughout the Unit.

Outcome 3 — Candidate reviews

Candidates will be given a template and will complete **four** reviews, covering the employability skills specified below, at different points throughout the Unit. This will give them an opportunity to record their personal progress in developing these skills. Candidates will review and evaluate these skills in the context of real or simulated practical activities in maritime settings. The reviews should be completed at regular intervals which allow the candidates to demonstrate progress between reviews.

National Unit Specification: statement of standards (cont)

UNIT Employability Skills and Careers in the Maritime Sector (SCQF level 5)

The candidate reviews will include the following:

- 1 A record of the candidate's review of their own strengths and areas for improvement in relation to the following 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

- 2 A record of feedback gathered from others in relation to these employability skills.

Candidates should gather feedback from the teacher/lecturer on **three** occasions and another person on **one** occasion. The other person could be, for example, a placement supervisor who has observed the candidate.

- 3 A record of action points identified in relation to feedback received.

It is expected that, at this level, most candidates will need support and guidance in completing their reviews. Support should be provided, however candidates should take responsibility for completing their own reviews.

The National Assessment Bank (NAB) pack provided for this Unit illustrates the standard that should be applied. It contains an example investigation brief and a candidate review template. 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.

National Unit Specification: support notes

UNIT Employability Skills and Careers in the Maritime Sector (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 20 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

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. 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 introduces candidates to the diverse range of job roles and responsibilities of people working within the maritime sector. This will include understanding the qualifications and experience required for the various job roles and the identification of career paths available within the sector. It also focuses on the generic skills valued by employers and provides opportunities for candidates to evaluate their own progress and to identify action points to improve their employability profile.

Outcomes 1 and 2

The relevant sub-sectors and job roles of the Maritime Sector which candidates might investigate are:

- ◆ Commercial Sea Fishing:
 - Skipper, Mate, Competent Deckhand, Engineer, Deckie Learner
- ◆ Ports and Harbours:
 - Port Operations, eg Harbour master, wharf manager, marine pilot, port
 - Operative, safety officer
 - Engineering operations — Port engineer, technician, maintenance assistant
- ◆ Maritime Search and Rescue:
 - Lifeboat crew — Coxswain, Helmsman, Navigator, Engineer
 - Mechanic, Crew member, First aider, Hovercraft commander
- ◆ Merchant Navy:
 - Officers (Navigation Deck) — Master, Deck Officer, Radio Officer
 - Officers (Engineering) — Engineering Officer, Electro-Technical Officer
 - Electrician
 - Support Staff/Ratings, eg Seaman, Cook, Bosun, Pumpman, Motorman
 - Tug Master and Crew
 - Hospitality Staff specific to Passenger vessels — Cruise Director, Purser and hospitality staff
 - Shore based ship management — fleet director, fleet personnel
 - Education and Training

National Unit Specification: support notes (cont)

UNIT Employability Skills and Careers in the Maritime Sector (SCQF level 5)

- ◆ Marine Leisure:
 - Design — Yacht/Boat designer, Draughtsperson
 - Manufacturing — Boat Builder/repairer/fitter, Marine engineer
 - Buying/Selling — Yacht broker, surveyor
 - Water-sports — instruction, coaching
 - Marinas — Yacht harbour manager, Dock-master, Berthing/Mooring/Yard Assistant
 - Crew — Captain, First Officer, Engineer, Chef, Steward, Deckhand
 - Chartering holidays — Flotilla engineer and hostess + skipper and crew

It is suggested that a broad range of understanding of the maritime sector is gained by considering a minimum of three sub-sectors.

The investigation should produce the following information about the maritime sector:

- ◆ a list of the sub-sectors of the maritime sector
- ◆ roles and responsibilities of those employed in the sector
- ◆ career paths available in different sub-sectors and more detailed information about career opportunities within two sub-sectors
- ◆ types of training, qualifications and experience that would be appropriate to enter and progress in careers in two sub-sectors

Outcome 3

When candidates are involved in the self-evaluation process for this Outcome, it would be useful to provide tuition on how to ask for and receive feedback from others, in order to avoid defensive reactions that may impede progress.

Candidates will be required to review and evaluate 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 the requirements of personal safety and social responsibility (health and safety awareness)
- ◆ 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

National Unit Specification: support notes (cont)

UNIT Employability Skills and Careers in the Maritime Sector (SCQF level 5)

This Outcome provides an opportunity to emphasise to candidates that making progress in developing knowledge and skills by a process of review, taking feedback from others and having confidence to identify action points for improvement, are all integral to success in real vocational contexts including the maritime sector.

When this Unit is being studied as part of the SCQF level 5 Maritime Skills Course, opportunities for practising, reviewing and evaluating will also arise while studying the other Units in this Course. These opportunities will arise when candidates are undertaking:

- ◆ the practical activities in *Seamanship: An Introduction* (SCQF level 5)
- ◆ the practical activities in *Health and Safety in the Maritime Sector* (SCQF level 5)
- ◆ the investigation and presentation of information in *Small Boat Engineering* (SCQF level 5)
- ◆ the routine maintenance task in *Small Boat Engineering* (SCQF level 5)
- ◆ the case study in *Maritime Environment* (SCQF level 5)

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Outcomes 1 and 2

It is important to ensure that the teacher/lecturer provides candidates taking this Unit with advice and guidance on gathering information on job roles and career opportunities in the maritime sector. The investigation should span the complete range of careers available as listed above. Candidates will need access to a variety of resources in order to collect information about job roles and career opportunities. This may come from the following examples — magazines, websites, school or college intranet systems, job advertisements in newspapers, the Job Centre, job boards in centres/organisations. The use of the internet, CD ROMS, DVDs and videos as well as visiting real workplace environments and interviewing/talking to people who work in the maritime sector are all good sources of information on careers.

Candidates should be provided with access to information on training, qualifications and experience that are required in the sector for specific job roles they identify such as can be obtained from SVQ's information, the Maritime Skills Alliance, Merchant Navy Training Board and Royal Yachting Association qualifications/requirements. This will give the candidate a clear understanding of what is required for specific job roles and the relevant skills, qualifications and experience needed to work in those roles in the maritime sector.

Outcome 3

It will be important for candidates to be given teacher/lecturer input on the employability skills that they will be reviewing and evaluating. As candidates will be required to identify action points and evaluate progress, it will be important that they are reminded of these skills throughout the delivery of this Unit.

National Unit Specification: support notes (cont)

UNIT Employability Skills and Careers in the Maritime Sector (SCQF level 5)

In order to help candidates develop their ability to review and evaluate their employability skills they could be encouraged to use a diary or log book. The diary would not be assessed but it could include examples of experiences where they have practised skills, learned something about themselves or reviewed their own skills. This information would then be a useful tool when candidates identify action points as part of the Candidate Reviews. The diary could also help to build self-confidence as candidates reflect on all activities.

Delivery of this Unit could incorporate a variety of teaching and learning approaches — tutor presentations, group work and discussions, visiting speakers, individual and group research. As far as possible this should be candidate-centred. If candidates are studying this Unit as part of the SCQF level 5 Maritime Skills Course, Outcomes 1 and 2 set the whole Course in context, providing information on different job roles and responsibilities of personnel employed in the Maritime Sector.

Where this Unit is delivered as part of the SCQF level 5 Maritime Skills Course, there are good opportunities to integrate the practical skills with the development and assessment of generic employability skills in the *Employability Skills and Careers in the Maritime Sector* (SCQF level 5) Unit. The candidate's review of progress in employability skills should be based on the practical and investigation activities carried out in this Course as indicated in the Guidance on Content and Context section of this Specification.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit there are good opportunities for candidates to develop aspects of the Core Skill of *Communication* when completing their folio and researching appropriate careers. Aspects of the Core Skill of Information Technology could also be developed if candidates make use of the internet and *Information and Communications Technology (ICT)* when researching possible careers and presenting their folio in a word processed format.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

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

This should take the form of the following written and/or oral recorded evidence.

Outcomes 1 and 2

To ensure the written and/or recorded oral evidence produced as a result of investigation is the candidate's own work, the content should be discussed with the teacher/lecturer at an appropriate point in the investigation and a record of the discussion should be retained. Assessors, where possible, should give candidates the choice as to their preferred method of submission. The evidence could be in the format of for example, written information, diagrams, charts, graphical information, an electronic slide show, a poster board.

National Unit Specification: support notes (cont)

UNIT Employability Skills and Careers in the Maritime Sector (SCQF level 5)

Outcome 3

The process of review and evaluation should take place at regular intervals throughout the learning and teaching process to demonstrate progression and development. The reviews could be carried out in the context of the different practical and investigation activities integrated with the maritime Units in the SCQF level 5 Maritime Skills Course. The initial review should be undertaken after a few weeks when the candidate will be able to comment on their development of employability skills with a degree of understanding as to what these mean and how to evaluate them.

On four occasions the candidate will:

- ◆ review all of the specified employability skills
- ◆ seek and record feedback on own performance
- ◆ identify action points

Formative assessment exercises involving candidates in identifying strengths and weaknesses and career opportunities can play an important part in building up the candidate's knowledge, understanding and confidence in relation to this Unit.

Written and/or recorded oral evidence, checklists and candidates reviews should be retained in the candidate's folio.

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. If centres wish to develop their own assessment instruments these should be of a comparable standard to those contained in the NAB.

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 templates for the candidate review sheets and for an investigation brief. 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.

National Unit Specification: support notes (cont)

UNIT Employability Skills and Careers in the Maritime Sector
(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