Technical and Vocational Education and Training Authority

National Competency Standard for Boat Operator

Standard Code: TRNS01V1/20

Qualification Name: National Certificate III in Boat Operations
Qualification Code: TRNS01Q1L3V1/20

PREFACE

Technical and Vocational Education and Training (TVET) Authority was established with the vision to develop a TVET system in the Maldives that is demand driven, accessible, beneficiary financed and quality assured, to meet the needs of society for stability and economic growth, the needs of Enterprise for a skilled and reliable workforce, the need of young people for decent jobs and the needs of workers for continuous mastery of new technology.

TVET system in the Maldives flourished with the Employment Skills Training Project (ESTP) funded by ADB with the objective of increasing the number of Maldivians, actively participating in the labor force, employed and self-employed. The Project supported expansion of demand driven employment-oriented skills training in priority occupations and to improve the capacity to develop and deliver Competency Based Skill Training (CBST). The project supported delivery of CBST programs to satisfy employer demand-driven needs.

Recognizing the importance of developing the youth sector to enable Maldives to transition from an upper-middle-income country to high-income country, the World Bank Country Partnership Framework (CPF) proposes to finance the Maldives Enhancing Employability and Resilience of Youth (MEERY) project. As part of the MEERY project is financing for skills development and entrepreneurship in priority sectors such as tourism, ICT and construction sector MEERY continues to provide support to TVET Authority to develop National Occupational Standard, instructional materials, assessment resource book and trainees log book for the National Occupational Standard for "Boat Operator". As part of the MEERY Project, TVET Authority has only undertaken to review standard which were developed in the ESTP Project to increase the economic opportunities for youth's trainees and promote equitable economic & social development in the country.

The National Competency Standards (NCS) provide the base for this training. Currently CBST is offered for six key sectors in the Maldives: Tourism, Fisheries and Agriculture, Transport, Construction, Social and the Information and Technology sectors. These sectors are included as priority sectors that play a vital role in the continued economic growth of the country.

The NCS are developed in consultation with Employment Sector Councils representing employers. They are designed using a consensus format endorsed by the Maldives Qualifications Authority (MQA) to maintain uniformity of approach and the consistency of content amongst occupations. This single format also simplifies benchmarking the NCS against relevant regional and international standards. NCS specify the standards of performance of a competent worker and the various contexts in which the work may take place. NCS also describes the knowledge, skills and attitudes required in a particular occupation. They provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competency acquired following training or through work experience. By sharing this information, all participants in the training process have the same understanding of the training required and the standard to be reached for certification. Certification also becomes portable and can be recognized by other employers and in other countries with similar standards.

NCS are the foundation for the implementation of the TVET system in Maldives. They ensure that all skills, regardless of where or how they were developed can be assessed and recognized. They also form the foundation for certifying skills in the Maldives National Qualification Framework (MNQF).

NCS are developed by the Technical and Vocational and Education Training Authority of Ministry of Higher Education. The NCS are endorsed by the Employment Sector Councils of the respective sectors and validated by the Maldives Qualification Authority.

Mohamed Hashim
Minister of State for Higher Education
TVET Authority

Ahmed Nisham
Director, Standard Development & Statistics
TVET Authority

TECHNICAL PANEL MEMBERS			
#	**Name**	**Designation**	**Organization**
01	Captain Ahmed Jabir	Lecturer and Consultant	Maritime Academy of Maldives
02	Hussain Nazeer	Assistant Director	Maldives Transport Authority
03	Mohamed Ziyaau	Deputy Training Officer	Maldives National Defense Force/ Coast Guard
04	Abdul Latheef Ali	Deputy Director Policy, Planning and Standards	Maldives National Defense Force/ Coast Guard
05	Mohamed Fazeen	Chief Inspector of Police	Maldives Police Service
06	Mohamed Shaneez	Manager	Maldives Transport and Contracting Company
07	Hussain Hameed Moosa	Associate Lecturer	Centre for Maritime Studies, Maldives National University
08	Hussain Aamil	Manager	Island Watersports Pvt Ltd

VERSION	DEVELOPER	DATE	STANDARD CODE
V1	Maldives Institute of Technology	29th September 2020	TRNS01V1/20

EMPLOYMENT SECTOR COUNCILS			
#	**Name**	**Designation**	**Organization**
01	Captain Adhil Rasheed	CEO	Maritime Academy of Maldives
02	Fathimath Nishar	Assistant Director	Ministry of Youth, Sports, and Community Empowerment
03	Ahmed Ifthikhar	Director	Ministry of Economic Development
04	Hussain Nazeer	Assistant Director	Maldives Transport Authority
05	Captain Ahmed Zubair	Lecturer	Centre for Maritime Maldives, Maldives National University
06	Ahmed Shahid	Port Captain	State Trading Organization (STO)
07	Abdulla Mohamed	Director Airworthiness	Maldives Civil Aviation Authority
08	Ahmed Haleem	Deputy Director	Maldives Transport Authority
09	Abdul Razzaq Adam	Assistant Lecturer	Maldives Polytechnic
10	Aishath Neesha Khaleel	Assistant General Manager	Maldives Ports Limited (MPL)
11	Ali Fathih	Transport Service Department Manager	Maldives Transport Contracting Company

National Occupational Standard has been endorsed by:	
Captain Adhil Rasheed Chairperson Transport Employment Sector Council	Fathimath Nishar Vice-Chairperson Transport Employment Sector Council
Technical and Vocational Education and Training Authority Ministry of Higher Education Handhuvaree Hingun, M. World Dream Male', Maldives	
Date of Endorsement: 29th September 2020	Date of Revision: NA

Standard Development Process

To begin with, Boat Operator occupations were profiled through study of the occupation across Maldivian workplaces. Referred occupational profiling process led to the development of the Draft Occupational Standard.

Draft occupational standard is then used to undertake functional analysis of the Boat Operator occupation and the referred functional process was undertaken with participation of industry experts. For strengthening the development of the National Occupational Standard, a panel with technical experts was formed. The members provide technical support which needs to be included in the developed standard.

Once the standard is finalized among the panel, after the recommendation this is later been submitted to the Transport Employment Sector Council. A brief report on how National Occupational Standard for Boat Operator was developed is presented to the council. Council members than ensures that the industry need has been catered in the standard and once the standard full fills the recommendation the standard has been endorsed by the council.

After endorsing the standard from the Transport Employment Sector Council, the final document is submitted to Maldives Qualification Authority (MQA) for approval. After the approval of MQA the National Occupational Standard for Boat Operator is published, which would be then used by training providers.

Description of "Boat Operator" program

Boat operators remain as the key personnel responsible safe operation of diverse range of maritime vessels across the Maldives. Referred maritime vessels range from passenger crafts, cargo vessels, diving boats, atoll and island ferries etc.

Proper training of Boat Operators will facilitate delivery of safe and quality services to all while maritime transportation remains as the most important segment of people and goods transportation across the Maldives.

Besides that, proper training of Boat Captains will facilitate increased life of maritime vessels as the knowledge and skills learnt from the boat operators can be applied for improved handling of vessels and their engines.

Job opportunities upon completion of "National Certificate III in Boat Operations"

Upon successful completion of the National Certificate III in Boat Operations, students can work in the following jobs.

1. *Boat Captain of ferry*
2. *Boat Captain of domestic cargo vessel*
3. *Captain of Boats used for Water Sports*
4. *Captains of Boats used for pleasure craft*
5. *Boat and Speedboat Captain of Fishing Vessel*
6. *Captains of safari boats*
7. *Captains of Luxury Vessels*
8. *Captains of Bare Boats*

KEY FOR CODING

Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC (Three letters)	Construction Sector (CON) Fisheries and Agriculture (FNA) Information, Communication and Technology (ICT) Transport Sector (TRN) Tourism Sector (TOU) Social Sector (SOC) Foundation (FOU)
Competency Standard	S
Occupation with in an industry sector	Two digits 01-99
Unit	U
Common Competency	CR
Core Competency	CM
Optional / Elective Competency	OP
Assessment Resources Materials	A
Learning Resources Materials	L
Curricular	C
Qualification	Q1, Q2 etc.
MNQF level of qualification	L1, L2, L3, L4 etc.
Version Number	V1, V2 etc.
Year of endorsement of standard, qualification	By "/" followed by two digits responding to the year of last review, example /20 for the year 2020

1. Endorsement Application for Qualification 01	
2. NATIONAL CERTIFICATE III IN BOAT OPERATIONS	
3. Qualification code: TRNS01Q1L3V1/20	**Total Number of Credits: 77**
4. Purpose of the qualification This qualification describes the performance outcomes, skills and knowledge required to handle vessels being used across the Maldivian seas. By the end of the program, students will be competent to undertake work tasks related to performing safe, smooth and effective operations of boats.	
5. Regulations for the qualification	National Certificate III in Boat Operations will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19

6. Schedule of Units

Unit No	Unit Title	Code
Common Competencies		
01	Apply work ethics and professionalism	TRNCM02V1/20
02	Provide effective customer care	TRNCM05V2/20
03	Perform basic computer operations	TRNCM06V2/20
Core Competencies		
04	Practice personal safety and social responsibilities	TRNS01CR04V1/20
05	Apply Basic Fire Prevention and Fire Fighting Skills	TRNS01CR05V1/20
06	Practice Personal Survival Techniques	TRNS01CR06V1/20
07	Apply elementary first aid skills	TRNS01CR07V1/20
08	Apply awareness on ship security	TRNS01CR08V1/20
09	Perform navigation and chart works	TRNS01CR09V1/20
10	Undertake bridge watch keeping	TRNS01CR10V1/20
11	Operate electronic navigation equipment	TRNS01CR11V1/20
12	Operate radio communication system	TRNS01CR12V1/20
13	Comply with maritime regulations	TRNS01CR13V1/20
14	Perform cargo handling and stowage	TRNS01CR14V1/20
15	Perform vessel handling	TRNS01CR15V1/20
16	Apply meteorological knowledge and skills	TRNS01CR16V1/20
17	Familiarize with ship construction, stability and damage control	TRNS01CR17V1/20
18	Process financial transactions	TRNS01CR18V1/20
19	Operate and maintain vessel's engine and system	TRNS01CR19V1/20

7. Accreditation requirements	The training provider should place trainees in relevant industry or sector to provide the trainees the hands-on experience exposure related to this qualification.
8. Recommended sequencing of units	As appearing under the section 06

Units Details

#	Unit Title	Code	Level	No of Credits
01	Apply work ethics and professionalism	TRNCM02V1/20	III	03
02	Provide effective customer care	TRNCM05V2/20	III	05
03	Perform basic computer operations	TRNCM06V2/20	III	03
04	Practice personal safety and social responsibilities	TRNS01CR04V1/20	III	03
05	Apply Basic Fire Prevention and Fire Fighting Skills	TRNS01CR05V1/20	III	05
06	Practice Personal Survival Techniques	TRNS01CR06V1/20	III	04
07	Apply elementary first aid skills	TRNS01CR07V1/20	III	05
08	Apply awareness on ship security	TRNS01CR08V1/20	III	03
09	Perform navigation and chart works	TRNS01CR09V1/20	III	04
10	Undertake bridge watch keeping	TRNS01CR10V1/20	III	06
11	Operate electronic navigation equipment	TRNS01CR11V1/20	III	04
12	Operate radio communication system	TRNS01CR12V1/20	III	04
13	Comply with maritime regulations	TRNS01CR13V1/20	III	04
14	Perform cargo handling and stowage	TRNS01CR14V1/20	III	03
15	Perform vessel handling	TRNS01CR15V1/20	III	04
16	Apply meteorological knowledge and skills	TRNS01CR16V1/20	III	06
17	Familiarize with ship construction, stability and damage control	TRNS01CR17V1/20	III	04
18	Process financial transactions	TRNS01CR18V1/20	III	04
19	Operate and maintain vessel's engine and system	TRNS01CR19V1/20	III	03

Packaging of National Qualifications:

National Certificate III in Boat Operations will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19

Qualification Code: TRNS01Q1L3V1/20

UNIT TITLE	Apply work ethics and professionalism				
DESCRIPTOR	This module covers the knowledge, skills and attitudes required in demonstrating proper work values and professionalism while working as a Boat Captain. Besides ethical values, knowledge and skills also developed on maintaining integrity at work.				
CODE	TRNCM02V1/20	LEVEL	III	CREDIT	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Define the purpose of work	1.1 One's unique sense of purpose for working and the whys of work are identified, reflected on and clearly defined for one's development as a person and as a member of society. 1.2 Personal mission is in harmony with company's values.
2. Apply work values/ethics	2.1 Work values/ethics/concepts are identified and classified in accordance with company's ethical standard guidelines. 2.2 Work policies are undertaken in accordance with company's policies, guidelines on work ethical standard. 2.3 Resources are used in accordance with company's policies and guidelines. 2.4 Punctuality, absence from work, sick, family and annual leave is maintained alignment to the Employment Act of the Maldives
3. Deal with ethical problems	3.1 Company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior are followed. 3.2 Work incidents/situations are reported according to company protocol/guidelines. 3.3 Resolution and/or referral of ethical problems identified are reported/documented based on standard operating procedure

4. Maintain integrity of conduct in the workplace	4.1 Personal behavior and relationships with co-workers and/or clients are demonstrated consistent with ethical standards, policy and guidelines. 4.2 Work practices are satisfactorily demonstrated and consistent with industry work ethical standards, organizational policy and guidelines. 4.3 Instructions to co-workers are provided based on ethical lawful and reasonable directives

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Tools, equipment and material used in this unit may include:

For the purpose of delivering the assignment, students need to be familiarized with the following.

- ✓ Employment act of Maldives

ASSESSMENT GUIDE

Forms of assessment

Assessment for the unit needs to be holistic and must include real or simulated workplace activities.

Assessment context

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of practices.

Critical aspects (for assessment)

It is critical that the assessment undertaken for this module be holistic and involve the following.

- ✓ Group discussion
- ✓ Role play
- ✓ Self-paced learning
- ✓ Written
- ✓ Demonstration
- ✓ Observation
- ✓ Interviews/questioning

Assessment conditions

Assessment must reflect both events and processes over a period of time.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Work responsibilities/job functions ✓ Company code of conduct/values ✓ Concept of work values/ethics ✓ Company policies and guidelines ✓ Work ethical standard ✓ Company's identified ethical problems ✓ Work incidents/situation ✓ Standard operating procedures ✓ Report writing and documentation ✓ Fundamental rights at work including gender sensitivity ✓ Corporate social responsibilities ✓ Human and interpersonal Relations ✓ Value Formation ✓ Professional Code of Conduct and Ethics	Skills to be developed: ✓Purpose for working and the why's of work are identified, reflected and linked to self-development ✓Work values/ethics/concepts are identified and classified in accordance with companies' ethical standard ✓Work policies are undertaken in accordance with company's policies. ✓Resources are used in accordance with company's policies and guidelines. ✓Work incidents/situations are reported according to company guidelines ✓Personal behavior and relationships with co-workers and clients are within ethical standard ✓Work practices are satisfactorily demonstrated and consistent. ✓Instructions to co-workers are provided based on ethical lawful and reasonable directives

UNIT TITLE	Provide effective customer care				
DESCRIPTOR	This unit addresses the importance of caring for customers in the hospitality industry, especially while working as a Lifeguard. It is a very important unit related to providing effective customer care and will include greetings, identifying needs of, delivering quality customer care, handling of inquiries, complaints and managing angry customers.				
CODE	TRNCM05V2/20	LEVEL	III	CREDIT	05

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Greet customers and colleagues	1.1. Customers and colleagues greeted according to standard procedures and social norms 1.2. Sensitivity to cultural and social differences demonstrated
2. Identify and attend to customer needs	2.1 Appropriate interpersonal skills are used to ensure that customer needs are accurately identified 2.2 Customer needs are assessed for urgency so that priority for service delivery can be identified 2.3 Personal limitation in addressing customer needs is identified and where appropriate, assistance is sought from supervisor 2.4 Customers informed correctly 2.5 Personal limitation identified and assistance from proper sources sought when required
3. Deliver service to customers	3.1 Customer needs are promptly attended to in line with organizational procedure 3.2 Appropriate rapport is maintained with customer to enable high quality service delivery 3.3 Opportunity to enhance the quality of service and products are taken wherever possible
4. Handle inquiries	4.1 Customer queries handled promptly and properly 4.2 Personal limitations identified and assistance from proper sources sought when required
5. Handle complaints	5.1 Responsibility for handling complaints taken within limit of responsibility 5.2 Personal limitations identified and assistance from proper sources sought when required 5.3 Operational procedures to handling irate or difficult customers followed correctly 5.4 Details of complaints and comments from customers properly recorded
6. Handle and manage angry customers	6.1 Apply principles related to anger management 6.2 Meet with angry customers and console them accordingly 6.3 Maintain a log book for recording customer service incidents.

Range Statement

Procedures included:

- ✓ Greeting procedure
- ✓ Complaint and comment handling procedure
- ✓ Incidence reporting procedures
- ✓ General knowledge of property
- ✓ Standard operating procedures for service deliveries
- ✓ Non-verbal and verbal communication
- ✓ Dress and accessories
- ✓ Gestures and mannerisms
- ✓ Voice tonality and volume
- ✓ Culturally specific communication customs and practices
- ✓ Cultural and social differences

Includes but are not limited to:

- ✓ Modes of greeting, fare welling and conversation
- ✓ Body language/ use of body gestures
- ✓ Formality of language

Interpersonal skills:

- ✓ Interactive communication
- ✓ Good working attitude
- ✓ Sincerity
- ✓ Pleasant disposition
- ✓ Effective communication skills
- ✓ Customer needs

Customer with limitation may include:

- ✓ Those with a disability
- ✓ Those with special cultural or language needs
- ✓ Unaccompanied children
- ✓ Parents with young children
- ✓ Pregnant women
- ✓ Single women

Tools, equipment and materials required may include:

- ✓ Relevant procedure manuals
- ✓ Availability of telephone, printer, computer, internet, etc.
- ✓ Availability of data on projects and services; tariff and rates, promotional activities in place etc.

ASSESSMENT GUIDE

Form of assessment

Assessment for the unit needs to be holistic and must include real or simulated workplace activities.

Assessment context

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of practices.

Critical aspects (for assessment)

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations. This unit may be assessed in conjunction with all units which form part of the normal job role.

- ✓ Assessment requires evidence that the candidate:
- ✓ Complied with industry practices and procedures
- ✓ Used interactive communication with others
- ✓ Complied with occupational, health and safety practices
- ✓ Promoted public relation among others
- ✓ Complied with service manual standards
- ✓ Demonstrated familiarity with company facilities, products and services
- ✓ Applied company rules and standards
- ✓ Applied telephone ethics
- ✓ Applied correct procedure in using telephone, printer, computer, internet
- ✓ Handled customer complaints
- ✓ Depict effective communication skills

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of hygienic work practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ effective customer services principles, including requirements to meet customer service needs and expectations ✓ workplace products and services ✓ customer service reporting procedures ✓ customer service problem-resolution procedures.	Skills to be developed: ✓ promote products and services in a clear and direct manner ✓ identify customer needs and expectations ✓ resolve customer concerns and complaints by taking appropriate action, including: • handling customer needs in a courteous, discreet and sensitive manner • addressing customer complaints and escalating where necessary ✓ apply workplace procedures relating to customer feedback, including: • customer service and continuous improvement processes • workplace customer service practices

UNIT TITLE	Perform basic computer operations				
DESCRIPTOR	This unit describes the performance outcomes, skills and knowledge required to start up a personal computer or business computer terminal; to correctly navigate the desktop environment; and to use a range of basic functions.				
CODE	TRNCM06V2/20	LEVEL	III	CREDIT	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Start computer, system information and features	1.1. Adjust workspace, furniture and equipment to suit user ergonomic requirements 1.2. Ensure work organization meets organizational and occupational health and safety (OHS) requirements for computer operation 1.3. Start computer or log on according to user procedures 1.4. Identify basic functions and features using system information 1.5. Customize desktop configuration, if necessary, with assistance from appropriate persons 1.6. Use help functions as required
2. Organize files using basic directory and folder structures	2.1 Create folders/subfolders with suitable names 2.2 Save files with suitable names in appropriate folders 2.3 Rename and move folders/subfolders and files as required 2.4 Identify folder/subfolder and file attributes 2.5 Move folders/subfolders and files using cut and paste, and drag and drop techniques 2.6 Save folders/subfolders and files to appropriate media where necessary 2.7 Search for folders/subfolders and files using appropriate software tools 2.8 Restore deleted folder/subfolders and files as necessary
3. Print information	3.1 Print information from installed printer 3.2 View progress of print jobs and delete as required 3.3 Change default printer if installed and required
4. Shut down computer	4.1 Close all open applications 4.2 Shut-down computer according to user procedures

5. Basic Microsoft Word and Excel skills	5.1. Ensure data is entered, checked and amended in accordance with organizational and task requirements, to maintain consistency of design and layout 5.2. Format spreadsheet using software functions; to adjust page and cell layout to meet information requirements, in accordance with organizational style and presentation requirements 5.3. Ensure formulae are used and tested to confirm output meets task requirements, in consultation with appropriate personnel as required 5.4. Use manuals, user documentation and online help to overcome problems with spreadsheet design and production 5.5. Format document using appropriate software functions to adjust page layout to meet information requirements, in accordance with organizational style and presentation requirements 5.6. Use system features to identify and manipulate screen display options and controls 5.7. Use manuals, user documentation and online help to overcome problems with document presentation and production

Range Statement:
This unit covers computer hardware to include personal computers used independently or within networks, related peripherals, such as printers, scanners, keyboard and mouse, and storage media such as disk drives and other forms of storage. Software used must include but not limited to word processing, spreadsheets, database and billing software packages and Internet browsing software.

Tools, equipment and materials required may include:
- ✓ Storage device
- ✓ Different software and hardware
- ✓ Personal computers system
- ✓ Laptop computer
- ✓ Printers
- ✓ Scanner
- ✓ Keyboard
- ✓ Mouse
- ✓ Disk drive /CDs, DVDs, compressed storage device

ASSESSMENT GUIDE

The assessment guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this occupational standard

Forms of assessment
A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- ✓ direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
- ✓ demonstration of techniques
- ✓ oral or written questioning to assess knowledge of computer operations and functions
- ✓ review of shortcuts created
- ✓ review of folders/subfolders created.

Critical aspects (for assessment)
Evidence of the following is essential:

- ✓ navigation and manipulation of the desktop environment within the range of assigned workplace tasks
- ✓ knowledge of organizational requirements for simple documents and filing conventions
- ✓ application of simple keyboard functions to produce documents with a degree of speed and accuracy relevant to the level of responsibility required.

Assessment conditions

- ✓ Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.
- ✓ Assessment must include direct observation of tasks.
- ✓ Where assessment of competency includes third-party evidence, individuals must provide evidence
- ✓ Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge required: ✓ Basic ergonomics of keyboard and computer use ✓ Main types of computers and basic features ✓ Of different operating systems ✓ Main parts of a computer ✓ Storage devices and basic categories of memory ✓ Relevant software ✓ General security and computer Viruses	Skills required: ✓ communication skills to identify lines of communication, to request advice, to effectively question, to follow instructions and to receive feedback ✓ problem-solving skills to solve routine problems in the workplace, while under direct supervision ✓ technology skills to use equipment safely while under direction, basic keyboard and mouse skills and procedures relating to logging on and accessing a computer ✓ basic typing techniques and strategies.

UNIT TITLE	Practice Personal Safety and Social Responsibilities				
DESCRIPTOR	This unit provides familiarization, basic safety training and instruction for safe working procedures, social responsibilities aboard vessels. The content presented here is also aligned to the STCW/95 Guideline and standards				
CODE	TRNS01CR04V1/20	**LEVEL**	III	**CREDIT**	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Observe safe working practices	1.1 Familiarization with vessel and its parts 1.2 Explain nature of shipboard hazards 1.3 Identify the equipment provided on board to counter these hazards 1.4 Practice use and demonstration of PPE
2. Contribute to effective human relationships on board ship	2.1 Introduction to interpersonal relationships 2.2 Practice team building 2.3 Contribute to team work 2.4 Interpret rights and obligation of crew 2.5 Explain employment conditions in the vessel 2.6 Prevent drugs and alcohol use on the vessel 2.7 Observe health and hygiene on board
3. Understand orders and be understood in relation to shipboard duties	3.1 Explain fundamentals of communication 3.2 Explain methods of communication 3.3 Interpret barriers in communication 3.4 Practice effective transmission skills 3.5 Observe effective listening skills 3.6 Identify effects and consequences of wrong communication 3.7 Explain responsibilities of crews and captains
4. Comply with emergency procedures	4.1 Explain the term 'emergency' 4.2 Interpret types of emergency: collision, fire, foundering. 4.3 Identify shipboard contingency plans for respond to emergencies. 4.4 Identify and explain Ship board oil pollution emergency plan 4.5 Engage on discovering potential emergency including fire, collision, foundering and ingress of water into the vessel 4.6 Practice drills and muster 4.7 Express value and need of drills and training 4.8 Interpret knowledge of escape routes and Internal communication and alarm system

5. Take precautions to prevent pollution of the marine environment	5.1 Define the term 'pollution' 5.2 Demonstrate effects of operational or accidental pollution of the marine environment 5.3 Explain international measures for pollution prevention, pollution avoidance and containment of pollutants 5.4 Explain damages made by sewage from ships 5.5 Explain damages made by garbage from ships 5.6 Restrict oil discharge from machinery and oil fuel tanks 5.7 Maintain Oil Record Book 5.8 Control discharge of oil 5.9 Interpret contents of Annex VI of MARPOL

Range Statement:

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- ✓ Potential emergencies may include:
  - Accidents
  - Collision
  - Grounding
  - Loss of main engine or power
  - Loss of steering
  - Person overboard
  - Rescue and evacuation of injured persons
  - Scenes of crime

- ✓ Information may include:
  - Documented instructions
  - Drills
  - Meetings
  - Notice boards
  - Pamphlets
  - Training sessions

- ✓ Threat assessments may include:
  - Determining the potential of a threat to actually cause harm
  - Evaluating and discussing the likelihood of a threat being realized
  - Providing information about people and events that may pose a threat to the vessel

- ✓ Initial actions may include:
  - Broadcasting appropriate distress or warning signals
  - Investigating the source of fire or smoke alarms
  - Calling crew and passengers to muster stations
  - Mustering appropriate resources

- ✓ Documentation may include:
  - Activity logs
  - Incident reports
  - Records of conversation
  - Request for assistance forms

- Reports

Tools, equipment and material used

- ✓ Access to emergency services and specialist personnel
- ✓ Communication equipment
- ✓ Personal protection equipment
- ✓ Publication of
  - MARPOL, 1973/78
  - IMO Lifesaving appliances code
  - Code of safe working practices for merchant seaman.
  - ILO code of practice on "Accident prevention on board ship at sea and in port"

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to manage safety and security of vessel crew and passengers' practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Manage safety and security of vessel crew and passengers' practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Familiarization with ship safety, shipboard hazards, safety related to loading unloading, mooring and unmooring. ✓ Knowledge related to effective human relationships on board ship ✓ Information related to orders and be understood in relation to shipboard duties ✓ Understand emergency procedures ✓ Information on the effects of pollution of the marine environment	Skills to be developed: ✓ Practice safe working practices ✓ Safe loading and unloading ✓ Safe mooring and unmooring ✓ Contribute to effective human relationships on board ship ✓ Understand orders and be understood in relation to shipboard duties ✓ Comply with emergency procedures related to collision, fire, and sinking of vessel etc. ✓ Participate in ship-based drills to enhanced emergency preparedness ✓ Take precautions to prevent pollution of the marine environment

UNIT TITLE	Apply basic fire prevention and firefighting skills				
DESCRIPTOR	This unit involves the skills and knowledge required to prevent fires and to respond effectively to any fire emergency on board a vessel. The module content is also aligned to the Fire Prevention and Fire Fighting (FPFF) modules of STCW/95 Guideline and standards				
CODE	TRNS01CR05V1/20	LEVEL	III	CREDIT	05

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Minimize the risk of fire	1.1 Familiarize with concept and application of the triangle to fire and explosion 1.2 Explain conditions for fires 1.3 Interpret properties of flammable materials 1.4 Familiarize with types and sources of ignition 1.5 Demonstrate fire prevention principles 1.6 Familiarize with flammable materials commonly found on board 1.7 Demonstrate pattern of spread of fire 1.8 Observe safe practices 1.9 Maintain constant vigilance 1.10 Patrol systems 1.11 Identify fire hazards
2. Minimize a state of readiness to respond to emergency situations involving fires	2.1 Familiarize with shipboard firefighting 2.2 Identify general emergency alarms 2.3 Familiarize with fire control plans and muster list 2.4 Participate in fire related communications 2.5 Practice personnel safety procedures 2.6 Participate in periodic shipboard drills 2.7 Explain location of fire-fighting appliances and emergency escape routes 2.8 Interpret ship construction arrangements 2.9 Familiarize with emergency fire pump 2.10 Familiarize with chemical powder applicants 2.11 Familiarize with emergency escape routes 2.12 Explain pattern of fire spread in different parts of a ship 2.13 Interpret fire and smoke detection measures on ships and automatic alarm systems 2.14 Familiarize with fire and smoke detection systems 2.15 Familiarize with automatic fire alarm 2.16 Interpret classification of fires and applicable extinguishing agents

3. Fight and extinguish fires	3.1 Familiarize with selection of fire-fighting appliances and equipment including fire hoses and nozzles 3.2 Use Mobile apparatus and portable fire extinguishers 3.3 Use fireman's outfit and fire blankets 3.4 Develop knowledge of fire safety arrangements, Fire alarms and first actions 3.5 Participate in firefighting activities 3.6 Familiarize with firefighting mediums and procedures 3.7 Extinguish small and extensive fires 3.8 Practice precautions for and use of fixed installations 3.9 Familiarize with smothering effect systems: carbon dioxide (CO2) and foams, inhibitor effect systems: powders and cooling effect systems: sprinklers, pressure spray 3.10 Use breathing apparatus for fighting fires 3.11 Participate in drills in smoke-filled spaces 3.12 Use breathing apparatus for effecting rescues

Range Statement:

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

- ✓ Fire hazards must include: accommodation, cargo areas, engine rooms, electrical distribution systems, fuel handling systems, galleys, lack of maintenance, laundry poor housekeeping, smoking, stores areas,
- ✓ Classes of fire must include: A Carbonaceous Solids, B Flammable Liquids, C Flammable Gases, D Combustible Metals, E Energized Electrical Equipment, F Cooking Oils and Fats
- ✓ Firefighting equipment and systems must include: Hoses, fixed fitted detection and suppression systems, foam applicators, international ship-to-shore connection, nozzles, portable and semi-portable extinguishers, stretchers/ropes and lines
- ✓ Protective clothing and equipment must include: head protection /helmet, hand protection /gloves, radiant heat protection /coat, foot protection/ boots, firefighter outfit
- ✓ Extinguishing media/agent must include: extinguishing powder, foam, gaseous extinguishing agents, water
- ✓ Firefighting activities must include: boundary control, containing the spread of fire, evacuation of casualties from heated smoke-filled environments, extinguishment, overhaul/fire watch

- ✓ Firefighting tactics must include: combination of attack, cooling the fuels, direct offensive (attack team), direction of attack, exclusion of oxygen – smothering, indirect defensive (fixed system), interrupting the chemical chain reaction, removal of fuels – starvation

Tools, equipment and material used

- ✓ Firefighting equipment and systems must include:
- ✓ hoses
- ✓ fixed fitted detection and suppression systems
- ✓ foam applicators
- ✓ international ship-to-shore connection
- ✓ nozzles
- ✓ portable and semi-portable extinguishers
- ✓ stretchers/ropes and lines
- ✓ Protective clothing and equipment must include:
    - head protection /helmet
    - Hand protection /gloves
    - Radiant heat protection /coat
    - Foot protection/ boots
    - Firefighter outfit as per current Fire Safety Systems Code (as applicable)

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to firefighting practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of basic firefighting practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ chemistry of fire, including the fire tetrahedron and its relationship to materials typically found on vessels ✓ classification of fire and applicable extinguishing agents ✓ correct use of all lifesaving appliances and firefighting appliances ✓ different classes of fire, their characteristics and strategies and equipment needed. ✓ the fire triangle) ✓ extinguishing media including firefighting foams ✓ fire and smoke detection and automatic alarm systems ✓ firefighting tactics, techniques and procedures ✓ flammable materials, fire hazards and spread of fire ✓ hazards and threats to life or health during onboard firefighting operations ✓ lifeline signals ✓ location of firefighting appliances and emergency escape routes ✓ maintenance of lifesaving appliances and firefighting appliances	Skills to be developed: ✓ Use various types of portable fire extinguishers ✓ Extinguish smaller fires, e.g. electrical fires, oil fires, propane fires ✓ Extinguish extensive fires with water, using jet and spray nozzles ✓ Extinguish fires with foam, powder or any other suitable chemical agent ✓ Enter and pass through, with lifeline but without breathing apparatus, a compartment into which high-expansion foam has been injected ✓ Fight fire in smoke-filled enclosed spaces wearing self-contained breathing apparatus ✓ Extinguish fire with water fog or any other suitable fire-fighting agent in an accommodation room or simulated engine-room with fire and heavy smoke ✓ Extinguish oil fire with fog applicator and spray nozzles, dry chemical powder or foam applicators ✓ Effect a rescue in a smoke-filled space wearing breathing apparatus

UNIT TITLE	Practice personal survival techniques				
DESCRIPTOR	This unit involves development of knowledge and skills related development of personal survival techniques in the event of vessel abandonment. The module content is also aligned to the Personal Survival Techniques (PST) modules of STCW/95 Guideline and standards				
CODE	TRNS01CR06V1/20	LEVEL	III	CREDIT	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Develop knowledge, understanding and survival	1.1 Determine nature of emergency to minimize potential dangers and threats. 1.2 Respond to muster and abandon vessel signals according to vessel safety procedures. 1.3 Organize survival equipment to maximize chances of survival. 1.4 Operate emergency position indicating radio beacon (EPIRB) to transmit distress signal. 1.5 Make distress calls using radio equipment. 1.6 Assist others to maximize their chances of survival. 1.7 Use prevailing circumstances and emergency conditions as the basis for timing and sequencing individual survival actions, and potential dangers and minimization of threats to others.
2. Familiarize with Emergency situations	2.1 Launch survival craft in a timely and effective manner 2.2 Operate survival equipment according to instructions and accepted survival practice 2.3 Operate survival radio equipment according to manufacturer instructions and regulatory protocols 2.4 Use of Lifejacket and other lifesaving equipment according to instructions
3. Undertake evacuation	3.1 Perform abandoning ship as a last resort 3.2 Undertake personal preparation for abandoning ship 3.3 Prevent panic 3.4 Perform crew duties to passengers 3.5 Participate crew duties-launching survival craft 3.6 Perform Masters orders to abandon ship 3.7 Participate Means of survival
4. Operate Survival craft and rescue boats	4.1 Operate Lifeboats 4.2 Operate Life rafts 4.3 Operate Rescue boats

5. Use Personal life-saving appliances	5.1 Use Lifebuoys 5.2 Use Lifejackets 5.3 Use Inflatable lifejackets 5.4 Wear immersion suits or anti-exposure suit 5.5 Wear Thermal protective aids 5.6 Perform personal survival without a lifejacket 5.7 Undertake boarding of survival craft
6. Practice Survival at sea	6.1 prevent dangers to survivors 6.2 Apply best use of survival craft facilities
7. Familiarize with Emergency radio equipment	7.1 Familiarize with Portable radio apparatus for survival Craft 7.2 Operate Emergency position-indicating radio beacons (EPIRBs) 7.3 Familiarize with Search and rescue transponders (SARTs)

Range Statement:

- ✓ Range is restricted to essential operating conditions and any other variables essential to the work environment.

Tools, equipment and material used

- ✓ All the tools and equipment towards skills delivery of the module including survival kits and crafts.

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to survive at sea.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of survive at sea must be constantly evaluated

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Develop knowledge, understanding and survival ✓ Familiarize with Emergency situations ✓ Undertake evacuation ✓ Operate Survival craft and rescue boats ✓ Use Personal life-saving appliances ✓ Practice Survival at sea ✓ Familiarize with Emergency radio equipment	Skills to be developed: ✓ don a lifejacket ✓ don and use an immersion suit ✓ safely jump from a height into the water ✓ right an inverted life raft while wearing a lifejacket ✓ swim while wearing a lifejacket ✓ keep afloat without a lifejacket ✓ board a survival craft from ship and water while wearing a lifejacket ✓ take initial actions on boarding survival craft to enhance chance of survival ✓ stream a drogue or sea-anchor ✓ operate survival craft equipment ✓ operate location devices, including radio equipment

UNIT TITLE	Apply elementary first aid skills				
DESCRIPTOR	The competency unit will develop knowledge and skills among the trainees to take immediate action upon encountering an accident or medical emergency until a person with medical first aid skills or the person in charge of medical care is on board. The module content is also aligned to the Elementary First Aid (FFA) modules of STCW/95 Guideline and standards.				
CODE	TRNS01CR07V1/20	**LEVEL**	III	**CREDIT**	05

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Adhere to general principles of providing first aid	1.1 Demonstrates how to raise the alarm 1.2 Describe sequence of immediate measures to be taken in cases of emergency. 1.3 State the content of an emergency checklist as Assessments of the accident situation, Assessment of own hazards, to self, unconsciousness, respiratory arrest, cardiac arrest, severe bleeding and rescue of casualty and notification of emergency
2. Familiarize with body structure and functions	2.1 Describes body structure in terms of Skeleton, Joints, muscles and tendons, major organs (brain, heart, lungs, etc.) and circulatory systems 2.2 State in simple words the functions of the parts forming the body structure
3. Perform positioning of casualty	3.1 Describes appropriate procedures for positioning a casualty in an emergency, in particular the recovery position and the resuscitation position 3.2 Demonstrates the correct procedure for positioning casualties
4. Handle unconscious Casualty	4.1 Recognize the sings and hazards of unconsciousness. 4.2 Apply appropriate measures, including keeping air passages clear, positioning of an unconscious casualty, action the case of respiratory or cardiac arrest and no food, liquid or other substances by mouth

5. Perform resuscitation	5.1 Recognize the necessity of immediate resuscitation in appropriate emergency situations 5.2 Apply resuscitation procedures alone and with the assistance of a further person for a minimum period of ten minutes. Including Control of respiration, function of reclined position of head, Mouth-to-mouth respiration Mouth-to-nose respiration and cardiac arrest 5.3 State methods and limiting factors of cardiac arrest by providing cardiac massage and cardiopulmonary resuscitation (CPR)
6. Attend incidents of bleeding	6.1 Recognize the hazards of bleeding 6.2 Apply appropriate basic measures to limit bleeding, in particular dealing with internal/external bleeding, shock, application of external pad and pressure to site, positioning of patient and application and dangers of a tourniquet
7. Perform management of shock	7.1 State the main factors causing shock. 7.2 Recognize the sing of shock as color of face and rate and character of pulse 7.3 Apply appropriate measures of basic shock management 7.4 State the essential measures of shock management as stopping of bleeding, protection from cooling, early intake of ample fluids if the patients are conscious, positioning of the patient, no smoking and no alcohol
8. Attend to burns and scalds, and accidents caused by electricity	8.1 Recognize the signs of burns and scalds and of accidents caused by electric current 8.2 Apply appropriate measures for burns and scalds including cooling of the area as quickly as possible 8.3 Apply the appropriate measures for chemical burns, removed of clothes and rinsing with ample water 8.4 Apply appropriate measures for chemical burns of eyes rinsing of eyes with ample water

	8.5 Apply appropriate measures for accidents caused by electric current related to noting hazards to rescuers, isolation of the casualty, protection from collapse and control of vital functions
9. Attend to rescue and transport of casualty	9.1 Apply appropriate transportation alone end with the assistance of a further person, taking into account the confined spaces and varying heights on board ship 9.2 Identify uses temporary and ad hoc aids for transport, stretcher transport, transport on a chair, transport with a triangular cloth and transport as illustrated in IMDS 9.3 Recognized the hazards of transporting a patient with injury of pelvis and/or spine and demonstrates the correct procedures for the transport of such casualties

Range Statement:
Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

- ✓ Emergency includes one or more of the following: asphyxia, burns and scalds and the effects of heat and cold, cardiac arrest, drowning, fractures, dislocations and muscular injuries, medical care of rescued persons
- ✓ Options for transporting casualty or waiting for medical assistance include one or more of the following: advice given by authorized health worker, severity of injury, time required for medical assistance to arrive, whether movement might cause a deterioration in casualty condition, whether contact with medical and/or emergency services has been achieved
- ✓ Documented includes one or more of the following: administration of medications including time, date, dose, person administering, description of injury, first aid management, fluid/oral intake/output including fluid loss via blood, vomit, faces, urine, location, time, vital signs
- ✓ Authorized health worker includes one or more of the following: general practitioner nurse practitioner, paramedic/ambulance officer

Tools, equipment and material used

- ✓ All the tools and equipment towards skills delivery of the module including first aid kits, PPE and all the required materials.

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to basic first aid practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of first aid practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ General Principles of first aid ✓ Body Structure and Functions ✓ Positioning of Casualty ✓ Managing the unconscious casualty ✓ Resuscitation ✓ Bleeding ✓ Management of Shock ✓ Burns and Scalds, and Accidents caused by Electricity ✓ Rescue and Transport of Casualty	Knowledge to be developed: ✓ Administering medication under direct instruction from an authorized health worker ✓ Conducting an initial casualty assessment ✓ Demonstrating adequate infection control procedures ✓ Examining casualty or patient ✓ Improvising treatment and associated resources ✓ minimizing the risk of harm to self and others at all times ✓ Preparing incident reports ✓ Compete identification completing identification of probable cause, nature and extent of injuries according to current first aid practice ✓ using available communication methods and equipment to access medical assistance. ✓ Identify and explain contents stored in first aid kits.

UNIT TITLE	Apply awareness on ship security				
DESCRIPTOR	Those who successfully complete this course should achieve the required standard of competence enabling them to contribute to the enhancement of maritime security through heightened awareness and the ability to recognize security threats to ships and to respond appropriately.				
CODE	TRNS01CR08V1/20	LEVEL	III	CREDIT	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Contribute to the enhancement of maritime security through heightened awareness	1.1 Maritime security terms and definitions 1.2 International maritime security policy and responsibilities of Governments, companies and persons 1.3 Maritime security levels and their impact on security measures and procedures aboard ship and in port facilities 1.4 Security reporting procedures 1.5 Security-related contingency plans
2. Recognition of security threats	2.1 Techniques used to circumvent security measures 2.2 Recognition of potential security threats 2.3 Recognition of weapons, dangerous substances and devices and awareness of the damage they can cause 2.4 Security-related information and security-related communications
3. Understanding of the need for and methods of maintaining security awareness and vigilance	3.1 Training, drill and exercise requirements under relevant conventions, codes and IMO circulars
4. Maintain the conditions set out in a ship security plan	4.1 Maritime security terms and conditions 4.2 International maritime security policy and responsibilities of Governments, companies and persons 4.3 Maritime security levels and their impact on security measures and procedures aboard ship and in the port facilities 4.4 Security reporting procedures 4.5 Procedures and requirements for drills and exercises under relevant conventions, codes and IMO circulars 4.6 Procedures for conducting inspections and surveys for the control and monitoring of security activities specified in a ship security plan 4.7 Security-related contingency plans and procedures for responding to security threats or breaches of security

5. Recognition of security risks and threats	5.1 Security documentation 5.2 Techniques used to circumvent security measures 5.3 Recognition of potential security threats 5.4 Recognition of weapons, dangerous substances and devices and awareness of the damage they can cause 5.5 Crowd management and control techniques 5.6 Security-related information and security-related communication 5.7 Methods for physical searches and non-intrusive inspections
6. Undertake regular security inspections of the ship	6.1 Techniques for monitoring restricted areas 6.2 Controlling access to the ship and to restricted areas on board ship 6.3 Methods for effective monitoring of deck areas and areas surrounding the ship 6.4 Inspection methods relating to the cargo and ship's stores 6.5 Methods for controlling the embarkation, disembarkation and access while on board of persons and their effects
7. Proper usage of security equipment and systems, if any.	7.1 Types of security equipment and systems 7.2 Testing, calibrating and maintaining security systems and equipment

Range Statement:
Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Tools, equipment and material used

- ✓ All the tools and equipment towards knowledge and skills delivery of the module including various equipment used for strengthening security of the vessels.

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to basic first aid practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of first aid practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Maritime security terms and definitions ✓ International maritime security policy and responsibilities of Governments, companies and persons ✓ Maritime security levels and their impact on security measures and procedures aboard ship and in port facilities ✓ Types of security equipment and systems ✓ Crowd management and control techniques	Skills to be developed: ✓ Contribute to the enhancement of maritime security through heightened awareness ✓ Security reporting procedures ✓ Recognition of security threats ✓ Techniques used to circumvent security measures ✓ Security-related information and security-related communications ✓ Procedures and requirements for drills and exercises under relevant conventions, codes and IMO circulars ✓ Testing, calibrating and maintaining security systems and equipment.

UNIT TITLE	Perform navigation and chart works				
DESCRIPTOR	This unit involves the skills and knowledge required to plan and safely conduct a passage on a vessel up to 80 m, including obtaining and interpreting weather information and position fixing.				
CODE	TRNS01CR09V1/20	LEVEL	III	CREDIT	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Plan passage	1.1 Navigational charts, nautical publications and related documentation are accessed and checked for currency. 1.2 Documentation is used to identify navigational hazards relevant to proposed voyage. 1.3 Route for voyage is determined and critical points along proposed route of voyage are identified and plotted. 1.4 Potential navigational contingencies and problems along planned route are identified and appropriate strategies for dealing with them are developed and recorded. 1.5 Weather forecasts are obtained and interpreted, and weather and sea condition hazards relevant to proposed voyage are identified prior to departure. 1.6 Route is modified as required to take into account weather and sea condition hazards. 1.7 Planned route for voyage and strategies for dealing with critical situations and contingencies along route are recorded.
2. Conduct a pre-departure check	2.1 Propulsion steering equipment and alarms are tested for serviceability and vessel hull is checked for seaworthiness 2.2 Wheelhouse equipment and alarms are checked to ensure they are in proper working condition and set for passage. 2.3 Wheelhouse equipment is checked for errors and allowances are made in planning passage. 2.4 Fuel is checked to ensure that there is adequate fuel, including a reserve, on board for the intended passage. 2.5 Safety equipment is checked for compliance with relevant legislation. 2.6 Communication equipment is checked to ensure it is in proper working condition.

	2.7 Anchoring and mooring equipment is checked to ensure it is in proper working condition. 2.8 Vessel and equipment are secured for sea. 2.9 Latest weather information is obtained and interpreted, and proposed route is modified as required to take into account weather and sea condition hazards.
3. Conduct passage	3.1 Local authorities are advised of departure and passage plan. 3.2 Mode of steering is selected appropriate for prevailing weather, sea and traffic conditions, and intended maneuvers. 3.3 Weather forecasts and observations of sea and weather conditions are used to determine vessel speed and direction. 3.4 Information from wheelhouse equipment is interpreted to identify navigational hazards and fix vessel position. 3.5 Alterations to vessel course or speed are made to meet prevailing circumstances and changing conditions. 3.6 Navigational maneuvers are conducted within safe operational limits of vessel. 3.7 Details of passage are recorded in vessel log according to regulations
4. Fix vessel position	4.1 Primary position fixing method is selected according to navigational principles and prevailing conditions 4.2 Position is fixed using selected method and information derived from relevant wheelhouse equipment 4.3 Position is recorded according to regulations 4.4 Fixes are taken at time intervals appropriate for prevailing navigational conditions 4.5 Performance checks of position fixing instruments and wheelhouse equipment are carried out according to organizational procedures and manufacturer instructions

Range Statement:

- ✓ Range is restricted to essential operating conditions and any other variables essential to the work environment.

Tools, equipment and material used

- ✓ All the tools and equipment for the delivery of skills as stipulated in the module

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to Plan and navigate a passage for a vessel practice.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Plan and navigate a passage for a vessel practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Maldivian tide tables and sailing directions ✓ basic meteorological terms ✓ effects of current and of leeway on course and speed of vessel (without calculations) and recognizing the presence of either or both factors ✓ factors to be considered when conducting a passage, including, buoyage, navigational hazards, overall passage plan requirements, prevailing weather and sea conditions and proximity and course of other vessels ✓ interpreting set and drift of current from information available on chart ✓ measuring distance on a chart ✓ method of finding variation from chart ✓ Information need to include title block, Zone of Confidence diagrams and datums, nautical publications and related documentation. ✓ obtaining bearings on small vessels ✓ ocean currents	Skills to be developed: ✓ applying hazard avoidance techniques in passage planning ✓ applying variation and deviation to compass courses ✓ completing required records relevant to planning and navigating a passage ✓ conducting a pre-departure check, including anchoring and mooring equipment, communications equipment, fuel propulsion equipment and alarms, safety equipment, distress flares or pyrotechnics, electronic position indicating radio beacon (EPIRB), firefighting equipment, lifejackets, life rafts and hydrostatic release systems, steering equipment and alarms, vessel hull, wheelhouse equipment and alarms, automatic pilot, echo sounder, electronic charts, global navigation satellite system (GNSS) receiver, magnetic compasses, plotters, radar, speed and distance log.

✓ procedures to determine compass accuracy by methods appropriate to the standards of watchkeeping when beyond sight of land. ✓ recognition of coastal features ✓ relating coastal features to a chart ✓ relationship between compass, magnetic, true and gyro courses and bearings, latitude and longitude and relative bearings ✓ sources of weather forecasts and interpretation of that information in simple terms ✓ use and limitations on use of electronic position fixing equipment found on small vessels ✓ using modern electronic navigational aids to determine vessel position ✓ using rhumba line navigation ✓ using soundings in determining position ✓ using terrestrial observations to determine vessel position individually or in combination with other methods	✓ determining times and heights of high and low water from Maldivian tide tables for any port and the relevance of chart datum ✓ developing a passage plan taking into account anticipated weather conditions, courses to steer, depths of water throughout passage, estimated time of arrival (ETA) at destination. ✓ knowledge of navigation markers during passage ✓ developing effective planning documents ✓ estimating position using dead reckoning ✓ fixing a vessel's position using electronic navigational systems, radar ranges or bearings ✓ reading and interpreting charts and other published information relevant to planning and navigating a passage ✓ recognizing faulty navigation equipment and taking appropriate action according to operating instructions

UNIT TITLE	Undertake bridge watch keeping				
DESCRIPTOR	This unit involves the skills and knowledge required to apply the accepted principles and procedures to be observed in maintaining a watch according to bridge resource management principles, to ensure a safe navigational watch on a vessel.				
CODE	TRNS01CR10V1/20	LEVEL	III	CREDIT	06

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Maintain watch on the bridge	1.1 Own responsibility for the safety of navigation is clearly defined at all times including periods when the Master is on the bridge and while under pilotage. 1.2 Proper lookout is maintained at all times according to organizational procedures and regulatory requirements. 1.3 Lights, shapes and sound signals are correctly recognized and acted upon. 1.4 Frequency and extent of monitoring traffic, vessel and environment are scheduled to conform with organizational procedures and regulatory requirements. 1.5 Bridge communication is maintained with other team members on matters relevant to the safety and integrity of the vessel. 1.6 Clear and unambiguous bridge communications are maintained and clarification is sought from or given to other team members when watch information or instructions are not clearly understood. 1.7 Internal and external communications systems are used according to organizational procedures. 1.8 Conduct, handover and relief of the watch is completed according to organizational procedures and regulatory requirements.

2. Maintain watch when anchored	2.1 Organizational procedures and regulatory requirements are complied with through frequency, timing and coverage of scheduled checks and inspections. 2.2 Appropriate action is taken in the event of irregularities or abnormal conditions to maximize the safety and integrity of the vessel. 2.3 Restrictions on access to the vessel by non-authorized persons are followed according to organizational procedures and regulatory requirements. 2.4 Internal and external communications systems are used according to organizational procedures.
3. Respond to potential collision and emergency situations	3.1 Potential collision situations are analyzed and appropriate action is taken in ample time according to regulatory requirements. 3.2 Correct responses are made to emergencies and situations that pose a danger to the vessel and personnel on board 3.3 Distress signals are recognized and appropriate action is taken to initiate search and rescue operations 3.4 Master is called in the event of a navigational incident which falls outside own responsibility.
4. Resource the bridge according to bridge resource management principles	4.1 Bridge resource management principles are interpreted to establish the functions and responsibilities of the watchkeeping team on board a vessel. 4.2 Resources are allocated and assigned as needed in correct priority to perform necessary tasks to obtain and maintain situational awareness. 4.3 Watch keeping schedule is developed with due consideration to team experience. 4.4 Instructions on watch keeping and lookout requirements are clearly and unambiguously given in relation to monitoring traffic, vessel and environment. 4.5 Clear and unambiguous roles and responsibilities of watchkeeping team are determined and allocated.

	4.6 Effective communication is maintained with team on matters relevant to safety and integrity of vessel. 4.7 Questionable decisions and/or actions are dealt with using an appropriate challenge and response.
5. Maintain navigation records	5.1 Proper record of the movements and activities related to the navigation of the vessel is maintained. 5.2 Records are filed and stored according to organizational procedures.

Range Statement:
Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

- ✓ Lights, shapes and sound signals must include:
  - alternative power source for lights
  - day time shapes for a vessel more than 500 gross tonnage
  - emergency lights for a vessel more than 500 gross tonnage
  - means of making sound signals for a vessel more than 500 gross tonnage
  - navigation lights for a vessel more than 500 gross tonnage

- ✓ Bridge communication includes one or more of the following:
  - communication with engine room
  - verbal instruction relating to watchkeeping duties
  - written Master instructions

- ✓ Irregularities or abnormal conditions include one or more of the following:
  - dragging anchor
  - fog and restricted visibility
  - heavy weather, including cyclones

- ✓ Emergencies include one or more of the following:
  - person overboard
  - search and rescue operations

- ✓ Matters relevant to safety and integrity of vessel include one or more of the following:
  - maintenance of proper lookout
  - navigation path and maintenance of vessels position
  - traffic density
  - visibility
  - weather and sea conditions

- ✓ Questionable decisions and/or actions include one or more of the following:
  - excessive speed in heavy weather or reduced visibility
  - inappropriate action to avoid collision
  - incorrect helm orders

- ✓ Proper records include one or more of the following:
  - course recorder
  - courses steered and vessel position
  - echo sounder recordings
  - logbook entries
  - passage plan
  - radar logbook
  - weather reports

Tools, equipment and material used

- ✓ All the tools and equipment for the delivery of skills as stipulated in the module

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to bridge watch keeping practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of bridge watch keeping practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ blind pilotage techniques ✓ bridge instrumentation, controls and alarms relevant to the function of watchkeeping ✓ bridge procedures on board a vessel ✓ bridge resource management principles including allocation, assignment and prioritization of resources; effective communication; assertiveness and leadership; obtaining and maintaining situational awareness; consideration of team experience ✓ causes of groundings, collisions and casualties ✓ fatigue management principles and techniques ✓ functions and responsibilities of the watchkeeping team on board a vessel ✓ maritime communication technique ✓ principles and use of navigational recording devices for keeping records of the operation, behavior and performance of the vessel and navigation equipment ✓ principles for the use of vessel routing and reporting systems for safe navigation	Skills to be developed: ✓ clearly defining responsibility for the safety of navigation at all times ✓ communicating effectively with others on watchkeeping issues, arrangements and requirements ✓ giving and receiving clear and unambiguous communications ✓ identifying and solving problems that may arise during watchkeeping duties, ✓ interpreting and implementing procedures relevant to the role and responsibilities of watchkeeper ✓ monitor and anticipate hazards and risks that may arise during watchkeeping duties and take appropriate action ✓ monitoring traffic, the ship and the environment to conform to accepted principles and procedures ✓ selecting and using appropriate internal and external communications equipment during watchkeeping ✓ using information from navigational equipment to maintain a safe navigational watch

UNIT TITLE	Operate electronic navigation equipment				
DESCRIPTOR	This unit involves the skills and knowledge required to maintain safe navigation of a vessel through the use of radar and other bridge equipment to determine vessel position.				
CODE	TRNS01CR11V1/20	**LEVEL**	III	**CREDIT**	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Set up bridge equipment	1.1 Bridge equipment is initialized and displays are set up and maintained. 1.2 Operational performance and accuracy of bridge equipment is confirmed and appropriate action is taken when performance is out of limits. 1.3 Any false echoes and misrepresentations are detected, identified and rejected.
2. Use radar to safely navigate	2.1 Radar is operated according to manufacturer instructions to produce data on position of vessel, other vessels and fixed objects. 2.2 Radar plot is constructed on radar plotting sheet and automatic plotting devices are initialized. 2.3 Systematic radar observations of vessels in the vicinity are made and risk of collision is determined. 2.4 Radar data is used to obtain a position fix for vessel using electronic bearing lines and variable range markers. 2.5 Radar bearings are corrected for vessel heading and compass error as appropriate. 2.6 Adjustments are made to vessel course and speed to maintain safety of navigation. 2.7 Maneuvering signals are made at appropriate time according to regulations.
3. Use bridge equipment to safely navigate	3.1 Bridge equipment is safely and efficiently used to conduct navigation of vessel. 3.2 Position of vessel is monitored during voyage to ensure planned passage is followed. 3.3 Movements of vessels in the vicinity are monitored to ensure collision situations do not occur. 3.4 Adjustments are made to vessel course and speed to maintain safety of navigation. 3.5 Maneuvering signals are made at appropriate time according to regulations. 3.6 Bridge equipment is maintained according to manufacturer requirements and organizational procedures.

4. Maintain navigational records	4.1 Navigational data produced by bridge equipment that should be retained to conform with organizational procedures and regulatory requirements is identified. 4.2 Navigational data is stored electronically or in hard copy as required by organizational procedures and regulatory requirements. 4.3 Security and access requirements for data are adhered to according to organizational procedures.

Range Statement:
Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

- ✓ Bridge equipment includes one or more of the following:
  - automatic identification systems
  - automatic pilot
  - automatic radar plotting aid (ARPAs)
  - azimuth mirrors and other bearing measurement devices
  - bridge alarm systems
  - chronometer
  - electronic chart display and information system (ECDIS)
  - echo sounder
  - differential satellite navigation systems
  - doppler and electro-magnetic speed logs
  - integrated navigation systems
  - magnetic and gyro compasses including rate of turn gyro
  - navigation light systems
  - radar
  - satellite navigation systems
  - signaling devices
  - voyage data recorders

- ✓ Misrepresentations includes one or more of the following:
  - compass errors
  - false echoes
  - incorrect radar settings for heading marker and range marker
  - incorrect setting up of electronic chart system (ECS) or ECDIS
  - incorrect setting up of satellite navigation systems
  - satellite and differential satellite navigation system errors
  - sea and rain clutter returns

- ✓ Navigational data includes one or more of the following:
  - navigation safety warning
  - recording of courses steered
  - weather and oceanographic reports

- Distress Urgency and Safety Measures
    - Distress calls
    - Acknowledgement of the calls
    - Record Keeping

Tools, equipment and material used

- ✓ All the tools and equipment for the delivery of skills as stipulated in the module

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to Operate electronic navigation equipment practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically.

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Operate electronic navigation equipment practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ correctly interpreting and analyzing information obtained from radar and automatic radar plotting aids (ARPAs) taking into account the limitations of equipment and prevailing circumstances and conditions ✓ correctly interpreting information received from other bridge equipment and applying appropriate corrections ✓ determining latitude by meridian altitude ✓ making adjustments to vessel course and speed to maintain safety of navigation ✓ making decisions to amend course or speed in a timely manner according to accepted navigation practice ✓ making maneuvering signals at the appropriate time for Preventing Collisions at Sea ✓ planning and conducting celestial observations using a sextant and plotting a position ✓ taking action to avoid close encounter or collision according to International Regulations for Preventing Collisions at Sea.	Skills to be developed: ✓ARPA system performance and accuracy, tracking capabilities, limitations and processing delays ✓course and speed of other vessels ✓critical echoes, exclusion areas and trial maneuvers ✓detecting course and speed changes of other vessels ✓detection of misrepresentation of information, false echoes, sea and rain clutter etc., racons and search and rescue transponders (SARTs) ✓factors affecting performance and accuracy of radar and other navigational equipment ✓fundamentals of radar and ARPAs ✓methods of position fixing using celestial observations with a sextant ✓plotting techniques and relative- and true-motion concepts ✓range and bearing by radar ✓sea and ground stabilization and their effect on ARPA data ✓time, distance and bearing of closest point of approach of a closing vessel ✓true and relative vectors, graphic representation of target information and danger areas

UNIT TITLE	Operate radio communication system				
DESCRIPTOR	This unit involves the skills and knowledge required to transmit and receive information by marine very high frequency (VHF) radio on a vessel according to regulations and includes operating an emergency position indicating radio beacon (EPIRB).				
CODE	TRNS01CR12V1/20	LEVEL	III	CREDIT	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Operate VHF radio equipment to transmit and receive messages	1.1 VHF radio equipment is selected for operation within limits of specifications. 1.2 VHF radio equipment is operated to transmit and receive various types of signal according to manufacturer instructions, established radio operation procedures and regulatory requirements. 1.3 Regulations and procedures applicable to vessel stations equipped with radio and digital selective calling (DSC) facilities are applied during radio communication. 1.4 Work health and safety/occupational health and safety (WHS/OHS) procedures and hazard control strategies are applied when operating radio equipment.
2. Access search and rescue VHF radio facilities	2.1 Information that may be required is identified and documented. 2.2 Request is made to the appropriate organization for the provision of the information in the required format and on the correct channel. 2.3 Information is provided and received in the required format and on the correct channel.
3. Operate an EPIRB in a distress situation	3.1 Routine checks are carried out on EPIRBs to confirm their operational capability according to manufacturer instructions and specifications. 3.2 EPIRB is operated according to manufacturer instructions and regulatory requirements.
4. Operate an EPIRB in a distress situation	4.1 Routine checks are carried out on EPIRBs to confirm their operational capability according to manufacturer instructions and specifications. 4.2 EPIRB is operated according to manufacturer instructions and regulatory requirements.

Range Statement:
Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Radio communications involves the application of principles of marine radio and Digital Selective Calling (DSC) to accurately transmit and receive messages, including distress calls. Use of correct procedures for transmitting and receiving signals using VHF equipment is required.

- ✓ Radio communication includes one or more of the following:
  - Distress, Urgency and Safety communications
  - normal vessel to vessel service (ship to ship)
  - normal vessel to shore service (ship to shore)

- ✓ Organizations with which radio communication may be conducted include one or more of the following:
  - coast stations
  - fishing organizations and co-operatives
  - limited coast stations
  - private shore stations, including boating clubs
  - state/territory police forces

- ✓ Available radio services include one or more of the following:
  - Automated Weather Stations
  - DSC
  - public communications
  - scheduled broadcasts (skeds)
  - search and rescue

Tools, equipment and material used
- ✓ VHF transceiver equipment – either fixed or handheld, or approved PC based simulator, which includes a DSC facility
- ✓ Documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals

ASSESSMENT GUIDE

Form of assessment
- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to operate radio communication system practices in the boat.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Operate radio communication system practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ basic principles of and procedures for marine VHF radio communications ✓ basic understanding of the Maldivian maritime search and rescue system, including satellite distress beacons ✓ marine VHF repeater stations ✓ methods of communicating vessel position ✓ procedures for transmitting and decoding the phonetic alphabet ✓ purpose of monitoring the VHF Channel including an awareness of the procedures used in making a DSC Distress Alert, Urgency and Safety Announcement ✓ sections of relevant regulations related to marine VHF radio communications ✓ VHF radio calling, replying and relaying procedures.	Skills to be developed: ✓ accurately and consistently using VHF equipment to send and receive messages and signals ✓ carrying out radio communications in compliance with the relevant Maldivian regulations. ✓ communicating effectively with other stations by using standard voice procedure, the phonetic alphabet, push to talk (PTT) switch and common radio terminology ✓ deploying an EPIRB ✓ sending and receiving Distress Alerts, and Urgency and Safety announcements by DSC ✓ setting up VHF equipment for use including selecting the channel, adjusting transmitter power level, adjusting squelch and using dual watch facility ✓ using correct procedures for transmitting and receiving signals using VHF equipment

UNIT TITLE	Comply with maritime regulations				
DESCRIPTOR	This unit involves the skills and knowledge required to apply codes of practice and other publications pertaining to the safe operation of a vessel up to 80 meters.				
CODE	TRNS01CR13V1/20	LEVEL	III	CREDIT	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Interpret relevant maritime rules and regulations impacting on vessel operations and personal responsibilities	1.1 Regulatory requirements for vessel operations and maintenance are followed. 1.2 Duties and responsibilities as the person in charge of a vessel are recognized. 1.3 Relevant legislations and regulations governing the vessel and the passage of Maldives are identified. 1.4 Organizational procedures relating to the vessel's safety management system are identified. 1.5 Copies of relevant rules and regulations are stored in an accessible location on the vessel according to regulations.
2. Ensure continuous validity of vessel certification	2.1 Certification expiry dates for the vessel, renewal requirements, periodic inspections or extensions are checked to ensure continuous validity. 2.2 Survey items and equipment are tested, checked and maintained according to certificate conditions. 2.3 Arrangements for renewals and surveys are completed in a timely manner and comply with issuing authority requirements. 2.4 Vessel's documents are completed and any effects of damage and alterations or additions to the vessel or operations are specified according to certification requirements and authority procedures. 2.5 Certificates and documentation are stored in a location on the vessel according to regulations.

3. Apply legislative and regulatory requirements to vessel operations and maintenance	3.1 Regulatory requirements relating to operations and maintenance of the vessel are interpreted and applied as required. 3.2 Vessel procedures for monitoring operations and maintenance are implemented. 3.3 Training and instruction, including induction training, on procedures is instigated to ensure crew comply with regulations. 3.4 Failure to comply with procedures is identified and dealt with according to organizational procedures 3.5 Tasks are monitored to ensure compliance with regulatory requirements. 3.6 Problems that may lead to potential non-compliance are promptly identified and rectified or reported according to organizational procedures. 3.7 Compliance with all relevant legislative and regulatory requirements is demonstrated while operating the vessel
4. Maintain statutory records of compliance	4.1 Regulatory requirements related to records and reports are interpreted 4.2 Records and reports are completed to comply with applicable regulations. 4.3 Records and reports are distributed to the required maritime authority at appropriate times and places. 4.4 Copies of records and reports are maintained according to regulatory requirements. 4.5 Evidence of current authorization, training and relevant licenses are maintained according to legal and regulatory requirements.

Range Statement:

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

- ✓ Regulatory requirements for vessel operations and maintenance include:
  - assisting in distress
  - certificates on board a vessel
  - IMO regulations/ International best practices and Local regulations
  - distress signals
  - duties and responsibilities of the Master
  - International Association of Lighthouse Authorities (IALA) Buoyage System
  - International Regulations for Preventing Collisions at Sea
  - lifesaving and firefighting appliances

- lights, shapes and sounds
- logbook or vessel record book
- marine pollution prevention
- operational areas and classifications of vessels
- radio logbook and regulations

Tools, equipment and material used

- ✓ Records and reports include one or more of the following:
- ✓ applicable logbooks
  - Ferry log book/ Generator Log/Engine Log (According to Ferry Regulation 2-69/78 (05th Jan 2010
  - Sludge Dispersal Log (regulation 2015/R-229) Annex 4
- ✓ Vessel Docking survey document (regulation 2015/R-229) Annex 5
- ✓ Passenger manifest (regulation 2015/R-229) Annex 10
- ✓ environmental control logbooks
- ✓ Survey certificates

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to Comply with maritime regulations practices.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Comply with maritime regulations practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ interpreting and applying regulations related to the operations, security and maintenance of a vessel ✓ maintaining statutory records of compliance including logbooks ✓ obtaining information from Maldives Transport Authority on Acts, legislation, codes of practice and other publications relating to the operations, security and maintenance of a vessel ✓ recognizing important navigation marks ✓ providing the required amount of detail in reports ✓ providing training, inductions and briefings to crew and passengers.	Skills to be developed: ✓ identifying and acting according to the duties and responsibilities of a Captain ✓ identifying and solving problems to do with the implementation of regulations relating to the operations, security and maintenance of a vessel ✓ interpreting and applying regulations related to the operations, security and maintenance of a vessel ✓ maintaining statutory records of compliance including logbooks ✓ obtaining information from Maldives Transport Authority on legislation, codes of practice and other publications relating to the operations, security and maintenance of a vessel. ✓ providing training, inductions and briefings to crew and passengers.

UNIT TITLE	Perform cargo handling and stowage				
DESCRIPTOR	This unit involves the skills and knowledge required to manage the loading, discharging and stowage of cargo to prevent damage or deterioration and to deliver it, as far as is possible, in as good a condition and order as it was when received aboard.				
CODE	TRNS01CR14V1/20	LEVEL	III	CREDIT	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Plan the stow	1.1 Loading manual is interpreted to determine operational loading conditions 1.2 Still water shear forces and bending moments in any load or ballast condition are known and not exceeded 1.3 Load is planned to ensure stresses in vessel are minimized by evenly distributing cargo 1.4 Load is planned to avoid incompatible cargo stowage 1.5 Regulations relating to hazardous materials/dangerous goods are observed, where appropriate 1.6 Load is planned for unloading sequence 1.7 Vessel cargo carrying capacity is not exceeded for appropriate load line 1.8 Vessel trim is calculated to allow for optimum vessel performance at sea
2. Plan load/unload with stevedores	2.1 Available port/vessel cargo handling gear and equipment is determined 2.2 Handling capacity of cargo handling gear and equipment is established 2.3 Pumping capacity of cargo pumps is verified 2.4 Availability and status of human resources is resolved 2.5 Cargo manifest is made available 2.6 Cargo stowage plan is completed and agreed with stevedores 2.7 Stability calculation is made and checked against vessel stability information manual 2.8 Notice of readiness to load/unload is provided
3. Prepare for loading	3.1 Holds are checked to ensure they are clean, dry and free of smell. 3.2 Safety arrangements in holds are verified to ensure they are operational. 3.3 Supplies of dunnage and mats are reviewed to ensure there are sufficient available. 3.4 Bilges are covered with tarpaulins/wrappers before loading

	3.5 Checks are made to ensure cargo is correctly identified, inspected and confirmed against documentation. 3.6 Preparations for loading are monitored according to stowage plan and organizational procedures
4. Control loading/unloading of cargo	4.1 Instructions are given to crew and stevedores involved in cargo loading/unloading according to cargo stowage plan 4.2 Compliance with regulations, procedures and instructions pertaining to type of cargo being handled is managed during loading/unloading operations 4.3 Loading/unloading is monitored to ensure loading rate is not exceeded in the case of bulk or liquid cargo 4.4 Vessel stability is observed during loading/unloading operations 4.5 Loading/unloading operations are checked against stowage plan 4.6 Cargo is secured and lashed according to lashing plan 4.7 All cargo handling documentation is completed according to organizational procedures and regulatory requirements
5. Manage ballast management operations	5.1 Ballast discharge requirements of port authority are complied with 5.2 Ballast management activities are monitored according to organizational procedures and port authority requirements 5.3 Ballast management problems are identified and appropriate action is taken to minimize risk to the environment.
6. Monitor care of cargo during voyage	6.1 Vessel plan for care of cargo during the voyage is implemented according to organizational and customer requirements, and relevant regulations. 6.2 Ventilation and humidity control systems are checked 6.3 Action required to maintain the wellbeing of cargo during the voyage is initiated according to customer requirements and organizational procedures. 6.4 Compliance with safety and hazard minimization procedures and regulations related to cargo care is managed at all times during the voyage to maintain safety of personnel, cargo and vessel. 6.5 Appropriate action is taken in the event of a cargo-related incident or emergency to rectify problem, secure cargo and maintain safety of vessel and personnel.

Range Statement:

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- ✓ Cargo may include:
  - Bulk cargo
  - Liquid cargo
  - Refrigerated cargo
  - Any other material, equipment or machinery that may be safely handled and stowed on the vessel

- ✓ Hazardous materials/dangerous goods may include:
  - Any cargo described in the International Maritime Dangerous Goods (IMDG) Code as hazardous or dangerous

- ✓ Cargo stowage plan must include:
  - Cargo weight
  - Correct description and stowage of hazardous and dangerous goods
  - Description of cargo to be loaded
  - Load/discharge port
  - Segregation of non-compatible cargo

- ✓ Ballast management problems may include:
  - Confirmation that the stowage plan conforms to stability requirements at all stages of loading and discharging
  - Contaminated ballast
  - Failure of ballast pumps

- ✓ Cargo-related incidents or emergencies may include:
  - Cargo handling gear failure
  - Cargo shift
  - Leakage
  - Spontaneous combustion

Tools, equipment and material used

- Records and reports:
- applicable logbooks

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to perform cargo handling and stowage practices.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of perform cargo handling and stowage practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Ballast management issues and procedures ✓ Cargo handling documentation requirements ✓ Effects on cargo handling of sea conditions, wind and weather ✓ Effects of different types of cargo operations on vessel trim and stability ✓ Main stresses set up by cargo, hogging, sagging and shearing ✓ Methods of handling various types of cargo ✓ Procedures for carrying out calculations involving weights, capacities, stowage factors, load densities ✓ Typical cargo handling problems and hazards, and appropriate preventative and remedial actions and solutions ✓ Various types of cargo likely to be carried; their peculiar characteristics, liability to damage, decay or deterioration; ✓ Ways of restricting vessel stress levels within permitted levels within permitted limits during loading/discharging cargo	Skills to be developed: ✓ Identify and solve problems related to loading, stowage, security and unloading of cargo ✓ Interpret stability manual and ensure stability calculations are within appropriate parameters for proposed cargo operation ✓ Monitor use of equipment involved in loading, stowage, security and unloading of cargo ✓ Read, interpret and apply instructions, regulations, procedures and information relevant to loading, stowage, security and unloading of cargo

UNIT TITLE	Perform vessel handling				
DESCRIPTOR	This unit involves the skills and knowledge required to maneuver a vessel up to 12 meters in length. This includes the ability to berth, moor, anchor and man oeuvre a vessel during emergencies.				
CODE	TRNS01CR15V1/20	**LEVEL**	III	**CREDIT**	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Handle vessel in normal conditions	1.1 Features of vessel that relate to its handling characteristics are recognized 1.2 Details of maneuvers are communicated to relevant personnel clearly and concisely using standard maritime vocabulary 1.3 Situational awareness is maintained to ensure safety of maneuvers 1.4 Maneuvers are completed to meet passage requirements 1.5 Propulsion equipment is used and monitored to assist in completing maneuvers safely 1.6 Safe operating limits of propulsion and steering equipment are not exceeded
2. Handle vessel in adverse weather conditions	2.1 Nature of adverse weather conditions is identified and potential impact on the maneuverability of the vessel is determined 2.2 Appropriate action is determined to ensure the safety of the vessel 2.3 Correct use of propulsion equipment is established to assist in completing maneuvers safely 2.4 Safe operating limits of propulsion and steering equipment are not exceeded 2.5 Situational awareness is maintained at all times to review actions and ensure the safety of the vessel
3. Handle vessel in emergencies	3.1 Risks to vessel and safety of persons on board are assessed and safety of required action is confirmed 3.2 Details of action are communicated to relevant personnel clearly and concisely using standard maritime vocabulary 3.3 Appropriate maneuvers are made during the emergency to maintain the safety of the vessel and those on board, and any other vessels or persons involved 3.4 Propulsion equipment is used and monitored to assist in completing maneuvers safely 3.5 Safe operating limits of propulsion and steering equipment are not exceeded
4. Tow and be towed	4.1 Preparations for towing are made safely according to established nautical practice 4.2 Correct towing procedures and precautions are applied when towing and being towed

Range Statement:

- ✓ Range is restricted to essential operating conditions and any other variables as follows.
  - The Effects of Deadweight, Draft and Trim
  - Effect of Wind and Current
  - Maneuvering
  - Squat and Shallow Water Effect
  - Anchoring and Mooring Procedures

Tools, equipment and material used

- ✓ All the tools and equipment for the delivery of skills as stipulated in the module

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to perform vessel handling practices.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of perform vessel handling practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Details on tropical storms and its wind and sea conditions that may affect the safety of the vessel ✓ Effects related to an incident involving hulls, propellers, propulsion units, including jet units, inboard engines, outboard motors, rudders and trim and displacement. ✓ maneuvering in the event of emergencies, including collision, disabled or partially disabled vessel, grounding, person overboard and bad weather. ✓ deploying a sea anchor to keep vessel head to sea ✓ heading to wind and sea to ride out the adverse weather with reduction of speed and seeking of shelter ✓ procedures for towing and being towed ✓ techniques for handling a vessel in heavy swell and surf	Skills to be developed: ✓ anchoring a vessel ✓ handling a disabled or partially disabled vessel ✓ maneuvering a vessel to berth and leave a berth, come to and leave a mooring, maintain a steady course, retrieve a person overboard. ✓ turn a vessel across the tide and across the wind ✓ undertaking preparations for towing, including crew briefings that include the task at hand and risks to persons on both vessels ✓ ensuring means of communication between the two vessels is available ✓ ensuring tow ropes are in good condition and of adequate strength and length for the proposed tow

UNIT TITLE	Apply meteorological knowledge and skills				
DESCRIPTOR	This unit applies to those working autonomously and with supervisory roles in various marine environments.				
CODE	TRNS01CR16V1/20	**LEVEL**	III	**CREDIT**	06

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Interpret information from a weather map	1.1 Identify characteristics of map types and their different uses. 1.2 Identify differences between general forecasts and forecasts for marine environments. 1.3 Identify weather map symbols and associated weather conditions. 1.4 Outline and justify a weather prediction over a multi-day period for a specific marine region using information gained from weather maps and forecasts.
2. Collect, record and interpret weather conditions in a specific marine region	2.1 Identify major cloud types and altitude level. 2.2 Collect weather and environmental information at regular intervals for a specific area over a multi-day period. 2.3 Record weather data and identify patterns. 2.4 Compare and identify the differences between current weather conditions and a current weather forecast. 2.5 Determine the possible effects of landforms on marine weather conditions. 2.6 Identify and explain season variations in weather patterns for a specific marine area. 2.7 Outline differences between large scale and localized weather conditions for a specific marine area.
3. Interpret weather and environmental information for aquatic activities at a specific marine location.	3.1 Determine the suitability and limitations of the activity in relation to the current local weather conditions and forecast. 3.2 Identify strategies to ensure the safety and well-being of individuals and or group in weather conditions according to relevant legislation and organizational policies and procedures. 3.3 Identify the weather conditions commonly associated with the onset of life-threatening weather hazards in a marine environment. 3.4 Identify characteristics of life-threatening weather hazards in a marine environment and their possible impact on recreational marine activities.

Range Statement:

- ✓ Range is restricted to essential operating conditions and any other variables such as the following
  - Meteorological Elements
  - Climatology
  - Weather Reports and Forecasting 1.5

Tools, equipment and material used

- ✓ Tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to apply meteorological knowledge and skills.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of apply meteorological knowledge and skills practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Legislation and organizational policies and procedures to enable safe conduct of weather interpretation activities ✓ Map types and symbols to predict weather for a specific marine area ✓ Differences between general and marine forecasts to anticipate additional hazards and risks ✓ Methods of predicting and forecasting weather to determine its impact on recreational marine activities ✓ Influence of cloud types, local air masses, seasons, topography and landforms on the weather and the implications of these on marine activities ✓ Methods of recording weather data to identify patterns and apply this information to plan safe marine activities ✓ Life threatening marine weather hazards and their possible impact on recreational marine activities ✓ Factors affecting global, regional and local climatic conditions and the impact of these on marine activities.	Skills to be developed: ✓ Planning and organizing skills to: ✓ Collect weather and environmental information at regular intervals ✓ Record and interpret weather and environmental information ✓ Justify suitability and safety of an activity area ✓ Problem-solving skills to: ✓ Determine the impact of meteorological data on planned activities ✓ Predict and anticipate weather for a specific marine environment ✓ Compare the differences between various weather attributes ✓ Literacy and numeracy skills to: ✓ Interpret and analyze weather and environment information ✓ Record weather data patterns.

UNIT TITLE	Familiarize with ship construction, stability and damage control				
DESCRIPTOR	This unit involves the skills and knowledge required to control trim, stability and stress within safe limits at all times on a vessel 500 gross tonnage or more.				
CODE	TRNS01CR17V1/20	**LEVEL**	III	**CREDIT**	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Manage vessel trim under normal operating conditions	1.1 Stability analysis and weight distribution planning are conducted at a time frequency and scope appropriate to the proposed nature of the voyage and vessel operation 1.2 Weight distribution is arranged to maintain vessel within acceptable stability limits for the anticipated operational situations likely to be experienced during the voyage 1.3 Calculations are made to determine the draught and center of gravity of vessel after adding, removing or shifting weight 1.4 Factors affecting the stability and trim of vessel are identified and allowances are made in calculations 1.5 Trim, draughts and list of vessels are controlled as required to ensure they are suitable to progress all anticipated vessel operations
2. Control vessel stability when compartment is flooded	2.1 Damage to vessel and nature of flooding of compartments is assessed 2.2 Effect upon vessel stability of flooded and flooding compartments is evaluated 2.3 Suitable strategy for maintaining or restoring trim and stability is devised 2.4 Where stress limits of the vessel are exceeded as a consequence of damage and/or flooding, appropriate action is initiated to ensure safety of personnel, including where necessary abandoning the vessel
3. Manage stress conditions of the vessel	3.1 Stress levels of the vessel are assessed according to manufacturer specifications 3.2 Stability of the vessel is monitored at a frequency and scope relevant to vessel operations and is sufficient to enable stress and stability to be maintained within acceptable limits at all times 3.3 Appropriate action is taken where weight distribution has or could exceed acceptable safety limits
4. Maintain records of stability management	4.1 Data and information related to stability management is accurately recorded 4.2 Data and information related to stability management is filed and stored according to organizational procedures

Range Statement:

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- ✓ Calculations must include:
  - Calculating required load distribution to achieve desired trim
  - Calculations for change of draught, trim and heel when entering different water densities and to bilging of compartments
  - Centre of gravity of a vessel using an inclining experiment and effect of suspended weights
  - Changes to draught, trim and heel due to adding or removing fuel, ballast or cargo
  - Determining required correction for height of center of gravity (kg) for free surface effect
  - Determining values of righting lever and construction of righting lever curves
  - Displacement, wetted surface, form coefficients, ton per centimeter immersion, application of Simpson's rules to first and second moments of area, centroids and centers of pressure
  - Effect on stability of dry docking and grounding
  - Hydrostatic stability of a vessel
  - Moment of statically stability at small angles of heel
  - Transverse and longitudinal stability using hydrostatic data
  - Vessel center of gravity, center of buoyancy and metacenter

- ✓ Factors may include:
  - Dry docking
  - Excessive trim
  - Free surface of a liquid
  - Grounding
  - Handling of heavy weights
  - Large swell conditions
  - Shift of cargo
  - Wind heel

- ✓ Damage to vessel may include:
  - Damage caused by incorrectly lashed or secured cargo
  - Damage caused by incorrectly stowed cargo
  - Damage to cargo handling equipment by exceeding safe working limits

- ✓ Nature of flooding may include:
  - Flooding due to collision or grounding
  - Ingress of sea water through hatch covers

- ✓ Suitable strategy may include:
  - Addition of ballast
  - Temporary damage repairs

Tools, equipment and material used

- ✓ Cargo handling equipment
- ✓ Instructions of relevant maritime authorities
- ✓ Manufacturer instructions and procedures
- ✓ Organizational cargo handling procedures
- ✓ Relevant Australian and international standards and regulatory requirements

- ✓ Relevant WHS/OHS legislation
- ✓ Vessel and shore safety checklists
- ✓ Vessel Cargo Securing Manual
- ✓ Vessel log
- ✓ Vessel Register of Materials Handling Equipment

ASSESSMENT GUIDE

Form of assessment

- ✓ Assessment for the unit needs to be holistic and observed during assessment of other units of competency which forms the qualification.
- ✓ Any written or practical examinations may include questions related to Familiarize with ship construction, stability and damage control.

Assessment context

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Critical aspects

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge

Assessment conditions

- ✓ Theoretical assessment of this unit must be carried out in an examination room where proper examination rules are followed.
- ✓ Assessment of Familiarize with ship construction, stability and damage control practices must be constantly evaluated.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Causes and repercussions of a heeling vessel ✓ Effects of density of sea water on the draught and freeboard of a vessel ✓ Features of the load-line and draught marks of a vessel and procedures for carrying out related calculations ✓ Fundamental principles of ship construction and the theories and factors that impact on trim and stability, and measures necessary to preserve trim and stability ✓ IMO recommendations concerning vessel stability ✓ Levelling arrangements for damaged side compartments ✓ Principles of synchronous rolling and methods for its control ✓ Principle stresses that act on the structure of a vessel, including panting and pounding ✓ Procedures for calculating the required load distribution to achieve the desired trim ✓ Typical problems related to the control of trim and stability for vessels. ✓ Work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices	Skills to be developed: ✓ Apply IMO recommendations concerning vessel stability ✓ Determine stability and trim requirements for docking or slipping the vessel ✓ Determine the effect on trim and stability of vessel in the event of damage to and consequent flooding of a compartment, and countermeasures to be taken ✓ Interpret and apply information on the fundamental principles of vessel construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability ✓ Maintain stability and stress conditions within safe limits at all times ✓ Use automatic data-based equipment

UNIT TITLE	Process financial transactions				
DESCRIPTOR	This unit describes the performance outcomes, skills and knowledge required to accept and process cash and other payments for products and services, and reconcile takings at the end of the service period or day.				
CODE	TRNS01CR18V1/20	LEVEL	III	CREDIT	04

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Process customer payments.	1.1. Receive, check and record cash float. 1.2. Check customer payments against sale value. 1.3. Provide correct change for cash payments. 1.4. Process and record transactions according to organizational procedures. 1.5. Prepare and issue accurate receipts including all relevant tax details. 1.6. Complete transactions using appropriate software applications in line with organizational speed and customer service requirements.
2. Reconcile takings.	2.1. Balance customer payments at designated time according to organizational policy. 2.2. Separate cash floats from takings prior to balancing. 2.3. Determine point-of-sale records of customer payments. 2.4. Accurately count and calculate customer payments. 2.5. Balance cash and other payments with point-of-sale records. 2.6. Investigate or report discrepancies in the reconciliation. 2.7. Record takings according to organizational procedures. 2.8. Transport and secure cash floats, cash and other payments according to organizational security procedures.
3. Understanding the fare process.	3.1. Know how to receive fares and issue receipts or tickets 3.2. Determine the different ways of paying for fares and Identify regulations and policies relating to concessionary fares. 3.3. Know how to process valid passenger tickets and passes 3.4. Know how to follow the alternative ticket procedure in case of machine failure.

Range Statement:

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Tools, equipment and materials required may include:

Assessment must ensure use of:

- ✓ a real or simulated business operation where financial transactions are processed
- ✓ special equipment and software currently used are applied to process and reconcile financial transactions
- ✓ current commercial procedures and documentation for the processing of financial transactions of cash and other forms of payments are documented properly

ASSESSMENT GUIDE

The assessment guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for this Occupational Standard.

Forms of assessment

Assessment for the unit needs to be continuous and holistic and must include real or simulated workplace activities.

Assessment of this unit must be completed on the job or in a simulated work environment which reflects a range of opportunities for communication.

Assessment conditions

Skills must be demonstrated in an operational facility or events environment where financial transactions are processed. This can be:

- ✓ an industry workplace
- ✓ a simulated industry environment.

Assessment must ensure access to:

- ✓ point-of-sale equipment and software currently used to process and reconcile financial transactions
- ✓ current commercial procedures and documentation for the processing of financial transactions
- ✓ cash and other forms of payments
- ✓ customers from whom the individual can take payments and with whom they can interact; these can be:
- ✓ customers in an industry workplace who are assisted by the individual during the assessment process; or
- ✓ individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment operated within a training organization.
- ✓ Assessors must satisfy the Standards for Registered Training Organizations' requirements for assessors.

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
✓ types of financial transactions that commonly take place in a bus ➢ application of goods and services tax (GST) ➢ payments include cash/cheque ➢ credit card ➢ electronic funds transfer at point of sale (EFTPOS) ➢ deposits ➢ foreign currency ➢ petty cash disbursements ➢ refunds ➢ traveler's cheques ➢ vouchers ✓ procedures for processing and recording different types of transactions	✓ process at least six different financial transactions using at least three different types of financial transactions listed in the knowledge evidence to address different types of customer payments ✓ process each of the above financial transactions: ✓ in line with security and other relevant procedures ✓ in a logical sequence ✓ within customer time constraints ✓ so that all customers are served effectively ✓ complete reconciliations of three different work or service periods within designated timelines

UNIT TITLE	Operate and maintain vessel's engine and system				
DESCRIPTOR	This unit describes the performance outcomes required to develop knowledge and skills related to safe operation and basic maintenance activities related to the vessel's engine and the systems installed on the vessels such as steering systems, generators system, etc.				
CODE	TRNS01CR19V1/20	**LEVEL**	III	**CREDIT**	03

ELEMENTS OF COMPETENCIES	PERFORMANCE CRITERIA
1. Operate and maintain vessel's engine	1.1 Develop fundamental knowledge of internal combustions engines 1.2 Identify engine parts and their functions 1.3 Start engine and operate engine smoothly 1.4 Perform simple routine jobs on the engine
2. Operate and maintain pumps and generators used in vessels	2.1 Develop fundamental knowledge of how pump and generators operate 2.2 Start and operate water pump and generators 2.3 Perform simple routine jobs on pump and generator
3. Perform inspection and attend small repairs related to electrical system of the vessels	3.1 Introduction to electrical system of vessels 3.2 Identify parts, functions and common faults on vessel electrical system 3.3 Perform simple repair and maintenance tasks on the electrical system of the vessel
4. Operate and maintain Refrigeration and Air conditioning systems of vessels	4.1 Introduction to Refrigeration and Air conditioning systems of vessels 4.2 Identify parts, functions and common faults on vessel Refrigeration and Air conditioning systems 4.3 Perform routine maintenance tasks on the Refrigeration and Air conditioning systems
5. Operate and maintain CCTV networks and public announcing system	5.1 Introduction to CCTV systems installed across vessels 5.2 Components and functions of CCTV systems used across vessels 5.3 Perform routine maintenance tasks on the CCTV systems of vessels 5.4 Maintain public announcing systems
6. Operate and maintain RO systems of Vessels	6.1 Introduction to RO systems installed across vessels 6.2 Components and functions of RO systems used across vessels 6.3 Perform routine maintenance tasks on the RO systems of vessels

Range Statement:

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Tools, equipment and material used

- ✓ An operating vessel
- ✓ Vessels engine
- ✓ Water pumps
- ✓ Generators
- ✓ Refrigeration and air-conditioning system of vessels
- ✓ CCTV system
- ✓ Electrical system of vessel
- ✓ RO system

ASSESSMENT GUIDE

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills involving operate and maintain the vessel's engine, its pumps and generators, electrical system, Ro system and CCTV systems.

Forms of assessment

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting. Assessment must include direct observation of tasks.

Critical aspects (for assessment)

Proper operation and routine maintenance of

- ✓ vessels engine
- ✓ Water pumps
- ✓ Generators
- ✓ Refrigeration and air-conditioning system of vessels
- ✓ CCTV system
- ✓ Electrical system of vessel
- ✓ RO system

Assessment conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting. Assessment must include direct observation of tasks.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- ✓ Marine vessel or simulated workplace
- ✓ Workshop or task instructions
- ✓ Workplace safety equipment
- ✓ Vessel engine, pump and generator, refrigeration and air-conditioning system, CCTV and RO system
- ✓ Tools and equipment

UNDERPINNING KNOWLEDGE AND SKILLS

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
Knowledge to be developed: ✓ Working principles, parts and functions and routine maintenance of • internal combustion engines • Electrical system of vessels • Refrigeration and air-conditioning system of vessels • Pump and generators of vessels • CCTV systems of vessels • RO systems of vessels	Skills to be developed: ✓ Safely operate and main the following • internal combustion engines • Electrical system of vessels • Refrigeration and air-conditioning system of vessels • Pump and generators of vessels • CCTV systems of vessels • RO systems of vessels

©Technical & Vocational Education & Training Authority (TVETA)