****

**REPUBLIC OF KENYA**

**NATIONAL OCCUPATIONAL STANDARDS**

**FOR**

**MARITIME TRANSPORT AND LOGISTICS TECHNICIAN**

**LEVEL 6**

****

TVET CDACC

P.O. BOX 15745-00100

NAIROBI

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# FOREWORD

The provision of quality education and training is fundamental to the Government’s overall strategy for social economic development. Quality education and training will contribute to achievement of Kenya’s development blueprint, Vision 2030 and sustainable development goals.

Reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution of Kenya 2010 and this resulted to the formulation of the Policy Framework for Reforming Education and Training (Sessional Paper No. 4 of 2016). A key feature of this policy is the radical change in the design and delivery of the TVET training. This policy document requires that training in TVET shall be competency based, curriculum development shall be industry led, certification shall be based on demonstration of competence and mode of delivery shall allow for multiple entry and exit in TVET programmes.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that these Occupational Standards were developed for the purpose of developing a competency-based curriculum for Maritime transport and logistics technician. These Occupational Standards will also be the bases for assessment of an individual for competence certification.

It is my conviction that these Occupational Standards will play a great role towards development of competent human resource for the Logistics sector’s growth and sustainable development.

**PRINCIPAL SECRETARY, VOCATIONAL AND TECHNICAL TRAINING**

**MINISTRY OF EDUCATION**

# PREFACE

Kenya Vision 2030 aims to transform the country into a newly industrializing, “middle-income country providing a high-quality life to all its citizens by the year 2030”. Kenya intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through life-long education and training. TVET has a responsibility of facilitating the process of inculcating knowledge, skills and attitudes necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency Based Education and Training (CBET).

The Technical and Vocational Education and Training Act No. 29 of 2013 and Sessional Paper No. 4 of 2016 on Reforming Education and Training in Kenya, emphasized the need to reform curriculum development, assessment and certification in TVET. This called for shift to CBET in order to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labour force.

The TVET Curriculum Development, Assessment and Certification Council (TVET CDACC), in conjunction with Maritime Transport and Logistics Sector Skills Advisory Committee (SSAC), have developed these Occupational Standards for a Maritime Transport and Logistics technician. These standards will be the bases for development of competency-based curriculum for Maritime Transport and Logistics level 6.

The occupational standards are designed and organized with clear performance criteria for each element of a unit of competency. These standards also outline the required knowledge and skills as well as evidence guide.

I am grateful to the Council members, Council Secretariat, Maritime Transport and Logistics SSAC, expert workers and all those who participated in the development of these occupational standards.

**Prof. CHARLES M. M. ONDIEKI, PhD, FIET (K), Con. EngTech.**

**CHAIRMAN, TVET CDACC**

# ACKNOWLEDGMENT

These Occupational Standards were developed through combined effort of various stakeholders from private and public organizations. I am thankful to the management of these organizations for allowing their staff to participate in this course. I wish to acknowledge the invaluable contribution of industry players who provided inputs towards the development of these Standards.

I thank TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) for providing guidance on the development of these Standards. My gratitude goes to Maritime Transport and Logistics Sector Skills Advisory Committee (SSAC) members for their contribution to the development of these Standards. I thank all the individuals and organizations who participated in the validation of these Standards.

I acknowledge all other institutions which in one way or another contributed to the development of these standards.

**CHAIRMAN**

**MARITIME TRANSPORT AND LOGISTICS SECTOR SKILLS ADVISORY COMMITTEE**

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# ACRONYMS

CBET Competency Based Education and Training

CDACC Curriculum Development Assessment and Certification Council

OS Occupational Standards

OSHA Occupation Safety and Health Act

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

LOG Logistics

MTL Maritime Transport and Logistics

BC Basic Competency

CC Common Competency

CR Core Competency

# KEY TO UNIT CODE

 LOG /OS /MTL/BC/01/6/A

Industry or sector

Occupational Standards

Occupational area

Type of competency

Competency number

Competency level

Version control

# OVERVIEW

Maritime Transport and Logistics Level 6 qualification constis of competencies that a person must achieve to enable him/her to be certified as a Maritime Transport and Logistics Technician. It entails managing port operations, processing marine insurance, performing cargo and terminal operations, performing container operation duties, managing shipping business, carrying out shipbroking and chartering, performing multi-modal transport operations and performing clearing and forwarding operations.

The units of competency comprising Maritime Transport and Logistics certificate level 6 qualifications include the following basic and core competencies:

**BASIC COMPETENCIES**

|  |  |
| --- | --- |
| **Unit of Competency Code** | **Unit of Competency Title** |
| LOG/OS/MTL/BC/01/6/A | Demonstrate communication skills |
| LOG/OS/MTL/BC/02/6/A | Demonstrate numeracy skills |
| LOG/OS/MTL/BC/03/6/A | Demonstrate digital literacy |
| LOG/OS/MTL/BC/04/6/A | Demonstrate entrepreneurial skills |
| LOG/OS/MTL/BC/05/6/A | Demonstrate employability skills |
| LOG/OS/MTL/BC/06/6/A | Demonstrate environmental literacy |
| LOG/OS/MTL/BC/07/6/A | Demonstrate occupational health and safety practices |

**CORE COMPETENCIES**

|  |  |
| --- | --- |
| Unit of Competency Code | Unit of Competency Title |
| LOG/OS/MTL/CR/01/6/A | Manage port operations |
| LOG/OS/MTL/CR/02/6/A | Process marine insurance |
| LOG/OS/MTL/CR/03/6/A | Perform cargo and terminal operations |
| LOG/OS/MTL/CR/04/6/A | Perform container operation duties |
| LOG/OS/MTL/CR/05/6/A | Manage shipping business |
| LOG/OS/MTL/CR/06/6/A | Carry out shipbroking and chartering  |
| LOG/OS/MTL/CR/07/6/A | Perform multi-modal transport operations |
| LOG/OS/MTL/CR/08/6/A | Perform clearing and forwarding operations |

# BASIC COMPETENCIES

# DEMONSTRATE COMMUNICATION SKILLS

**UNIT CODE:** LOG/OS/MTL/BC/01/6/A

**UNIT DESCRIPTION**

This unit covers the competencies required to demonstrate communication skills. It involves meeting communication needs of clients and colleagues, developing communication strategies, establishing and maintaining communication pathways, conducting interviews, facilitating group discussion and representing the organization.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT** These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms are elaborated in the Range*** |
| 1. Meet communication needs of clients and colleagues
 | 1. Specific communication needs of clients and colleagues are identified and met based on workplace requirements
2. Different communication approaches are identified and applied according to clients’ needs
3. Conflict is identified and addressed as per the standards of the organization
 |
| 1. Develop communication strategies
 | * 1. Strategies for effective internal and external dissemination of information are developed as per organization’s requirements
	2. Special communication needs are considered in developing strategies according workplace procedures
	3. ***Communication strategies*** are analyzed, evaluated and revised based the workplace needs
 |
| 1. Establish and maintain communication pathways
 | * 1. Pathways of communication are established as per organization policy
	2. Pathways are maintained and reviewed according to organization procedures
 |
| 1. Promote use of communication strategies
 | * 1. Information is provided to all areas of the organization as per strategy requirements
	2. Effective communication techniques are articulated and modeled according work requirements
	3. Personnel are given guidance about adapting communication strategies as per organization procedures
 |
| 1. Conduct interview
 | 1. A range of appropriate communication strategies are employed in ***interview situations*** based on the workplace requirements
2. Records of interviews are made and maintained in accordance with organizational procedures
3. Effective questioning, listening and nonverbal communication techniques are used as per needs
 |
| 1. Facilitate group discussion
 | 1. Mechanisms to enhance ***effective group interaction*** are identified and implemented according to workplace requirements
2. Strategies to encourage group participation are identified and used as per organizations’ procedures
3. Meetings objectives and agenda are set and followed based on workplace requirements
4. Relevant information is provided and feedback obtained according to set protocols
5. Evaluation of group communication strategies is undertaken in accordance with workplace guidelines
6. Specific communication needs of individuals are identified and addressed as per individual needs
 |
| 1. Represent the organization
 | 1. 7Relevant presentation are researched and presented based on internal or external communication forums requirements
2. Presentation is delivered in a clear and sequential manner as per the predetermined time
3. Presentation is made as per appropriate media
4. Difference views are respected based on workplace procedures
5. Written communication is done as per organizational standards
6. Inquiries are responded according to organizational standard
 |

**RANGE**

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Communication strategies may include but not limited to:
 | * Language switch
* Comprehension check
* Repetition
* Asking confirmation
* Paraphrase
* Clarification request
* Translation
* Restructuring
* Approximation
* Generalization
 |
| 1. Effective group interaction may include but not limited to:
 | * Identifying and evaluating what is occurring within an interaction in a non-judgmental way
* Using active listening
* Making decision about appropriate words, behavior
* Putting together response which is culturally appropriate
* Expressing an individual perspective
* Expressing own philosophy, ideology and background and exploring impact with relevance to communication
 |
| 1. Situations may include but not limited to:
 | * Establishing rapport
* Eliciting facts and information
* Facilitating resolution of issues
* Developing action plans
* Diffusing potentially difficult situations
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Communication
* Active listening
* Interpretation
* Negotiation
* Writing

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Communication process
* Dynamics of groups
* Styles of group leadership
* Key elements of communications strategy

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical aspects of Competency
 | Assessment requires evidence that the candidate: 1. Developed communication strategies to meet the organization requirements and applied in the workplace
2. Established and maintained communication pathways for effective communication in the workplace
3. Used communication strategies involving exchanges of complex oral information
 |
| 1. Resource Implications
 | The following resources should be provided: 1. Access to relevant workplace or appropriately simulated environment where assessment can take place
2. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through: 1. Direct observation
2. Oral questioning
3. Written texts
 |
| 1. Context of Assessment
 | Competency may be assessed:1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE NUMERACY SKILLS

**UNIT CODE:** LOG/OS/MTL/BC/02/6/A

**UNIT DESCRIPTION**

This unit describes the competencies required to demonstrate numeracy skills. It involves; applying a wide range of mathematical calculations for work; applying ratios, rates and proportions to solve problems; estimating, measuring and calculating measurement for work; using detailed maps to plan travel routes for work; using geometry to draw and construct 2D and 3D shapes for work; collecting, organizing and interpreting statistical data; using routine formula and algebraic expressions for work and using common functions of a scientific calculator.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT** These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms*** ***are elaborated in the Range.*** |
| 1. Apply a wide range of mathematical calculations for work
 | * 1. Mathematical information embedded in a range of workplace tasks and texts is extracted as per workplace procedures.
	2. Mathematical information is interpreted and comprehended as per job specifications
	3. A range of mathematical and problem solving processes are selected and used as per job specification
	4. Different forms of fractions, decimals and percentages are flexibly used as per SOPs
	5. Calculation performed with positive and negative numbers as per SOPs
	6. Numbers are expressed as powers and roots and are used in calculations as per SOPs
	7. Calculations done using routine formulas as per SOPs
	8. Estimation and assessment processes are used to check outcome as per workplace procedures
	9. Mathematical language is used to discuss and explain the processes, results and implications of the task as per workplace procedures
 |
| 1. Use and apply ratios, rates and proportions for work
 | * 1. Information regarding ratios, rates and proportions extracted from a range of workplace tasks and texts as per SOPs
	2. Mathematical information related to ratios, rate and proportions is analysed as per SOPs
	3. Problem solving processes are used to undertake the task as per workplace procedures
	4. Equivalent ratios and rates are simplified as per SOPs
	5. Quantities are calculated using ratios, rates and proportions as per SOPS
	6. Graphs, charts or tables are constructed to represent ratios, rates and proportions as per SOPs
	7. The outcomes reviewed and checked as per job specifications
	8. Information is record using mathematical language and symbols as per workplace procedures
 |
| 1. Estimate, measure and calculate measurement for work
 | * 1. Measurement information embedded in workplace texts and tasks are extracted and interpreted as per job specifications
	2. Appropriate workplace measuring equipment are identified and selected as per job specifications
	3. Accurate measurements are estimated and made as per SOPs
	4. The area of ***2D shapes*** including compound shapes are calculated as per SOPs
	5. The volume of 3D shapes is calculated using relevant formulas as per SOPs
	6. Sides of right angled triangles are calculated using Pythagoras’ theorem as per SOPs
	7. conversions are perform between units of measurement as per job specification
	8. Problem solving processes are used to undertake the task as per workplace Procedures
	9. The measurement outcomes are reviewed and checked as per workplace procedures
	10. Information is recorded using mathematical language and symbols appropriate for the task as per workplace procedures
 |
| 1. Use detailed maps to plan travel routes for work
 | * 1. Different types of maps are identified and interpreted as per job requirements
	2. Key features of maps are identified as per job requirements
	3. Scales are identified and interpreted as per job requirements
	4. Scales are applied to calculate actual distances
	5. Positions or locations are determined using directional information as per job requirements
	6. Routes are planned by determining directions and calculating distances, speeds and times as per job requirements
	7. Information is gathered and identified and relevant factors related to planning a route checked as per job requirements
	8. Relevant equipment is select and checked for accuracy and operational effectiveness as per job requirements
	9. Task is planned and recorded using specialized mathematical language and symbols appropriate for the task as per job requirements
 |
| 1. Use geometry to draw 2D shapes and construct 3D shapes for work
 | * 1. A range of 2D shapes and 3D shapes and their uses in work contexts is identified as per job specifications
	2. Features of 2D and 3D shapes are named and described as per job specifications
	3. Types of angles in 2D and 3D shapes are identified as per job specifications
	4. Angles are drawn, estimated and measured using geometric instruments as per job requirements
	5. Angle properties of 2D shapes are named and identified as per SOPs
	6. Angle properties are used to evaluate unknown angles in shapes as per SOPs
	7. Properties of perpendicular and parallel lines are applied to shapes as per SOPs
	8. Understanding and use of symmetry is demonstrated as per SOPs
	9. Understanding and use of similarity is demonstrated as per SOPs
	10. The workplace tasks and mathematical processes required are identified as per workplace procedures
	11. 2D shapes is drawn for work as per job specification
	12. 3D shapes is constructed for work as per job specification
	13. The outcomes are reviewed and checked as per workplace procedures
	14. Specialized mathematical language and symbols appropriate for the task are used as per SOPs
 |
| 1. Collect, organize, and interpret statistical data for work
 | * 1. Workplace issue requiring investigation are identified as per workplace procedures
	2. Audience / population / sample unit is determined as per workplace procedures as per workplace procedures
	3. Data to be collected is identified as per workplace procedures
	4. Data collection method is selected as per workplace procedures
	5. Appropriate statistical data is collected and organized as per SOPs
	6. Data is illustrated in appropriate formats as per SOPs
	7. The effectiveness of different types of graphs are compared as per SOPs
	8. The summary statistics for collected data is calculated as per SOPs
	9. The results / findings are interpreted as per SOPs
	10. Data is checked to ensure that it meets the expected results and content as per workplace procedures
	11. Information from the results including tables, graphs and summary statistics is extracted and interpreted as per workplace procedure
	12. Mathematical language and symbols are used to report results of investigation as per workplace procedure
 |
| 1. Use routine formula and algebraic expressions for work
 | * 1. Understanding of informal and symbolic notation, representation and conventions of algebraic expressions is demonstrated as per SOPs
	2. Simple algebraic expressions and equations are developed as per job specification
	3. Operate on algebraic expressions as per job requirement
	4. Algebraic expressions are simplified as per job requirement
	5. Substitution into simple routine equations is done as per SOPs
	6. Routine formulas used for work tasks are identified and comprehended as per SOPs
	7. Routine formulas are evaluate by substitution as per SOPs
	8. Routine formulas transposed as per SOPs
	9. Appropriate formulas are identified and used for work related tasks as per workplace procedures
	10. Outcomes are checked and result of calculation used as per workplace procedures
 |
| 1. Use common functions of a scientific calculator for work
 | * 1. Required numerical information to perform tasks is located as per job specification
	2. The order of operations and function keys necessary to solve mathematical calculation are determined as per job specification
	3. Function keys on a scientific calculator are identified and used as per SOPs
	4. Estimations are referred to check reasonableness of problem solving process as per workplace procedures
	5. Appropriate mathematical language, symbols and conventions are used to report results as per workplace procedures
 |

**RANGE**

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. 2D shapes may include but not limited may include but not limited to:
 | * Triangles
* Square
* Rectangle
* Triangle
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Measuring
* Logical thinking
* Computing
* Drawing of graphs
* Applying mathematical formulas
* Analytical

**Required knowledge**

The individual needs to demonstrate knowledge of:

* Types of common shapes
* Differentiation between two dimensional shapes / objects
* Formulae for calculating area and volume
* Types and purpose of measuring instruments
* Units of measurement and abbreviations
* Fundamental operations (addition, subtraction, division, multiplication)
* Rounding techniques
* Types of fractions
* Different types of tables and graphs
* Meaning of graphs, such as increasing, decreasing, and constant value
* Preparation of basic data, tables & graphs

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical aspects of Competency
 | Assessment requires evidence that the candidate:1. Developed communication strategies to meet the organization requirements and applied in the workplace
2. Established and maintained communication pathways for effective communication in the workplace
3. Used communication strategies involving exchanges of complex oral information
 |
| 1. Resource Implications
 | The following resources should be provided:1. Access to relevant workplace or appropriately simulated environment where assessment can take place
2. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through:1. Observation
2. Oral questioning
3. Written test
4. Portfolio of Evidence
5. Interview
6. Third party report
 |
| 1. Context of Assessment
 | Competency may be assessed:1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE DIGITAL LITERACY

**UNIT CODE:** LOG/OS/MTL/BC/03/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to demonstrate digital literacy. It involves, identifying computer software and hardware, applying security measures to data, hardware, and software in automated environment, applying computer software in solving task, applying internet and email in communication at workplace, applying desktop publishing in official assignments and preparing presentation packages.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT** These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms are elaborated in the Range*** |
| 1. Identify appropriate computer software and hardware
 | * 1. Concepts of ICT are determined in accordance with computer equipment
	2. Classifications of computers are determined in accordance with manufacturers specification
	3. Appropriate computer software is identified according to manufacturer’s specification
	4. Appropriate computer hardware is identified according to manufacturer’s specification
	5. Functions and commands of operating system are determined in accordance with manufacturer’s specification
 |
| 1. Apply security measures to data, hardware, software in automated environment
 | * 1. ***Data security and privacy are classified*** in accordance with the prevailing technology
	2. ***Security threats*** reidentified ***and control measures*** are applied in accordance with laws governing protection of ICT
	3. Computer threats and crimes are detected in accordance to Information Management security guidelines
	4. Protection against computer crimes is undertaken in accordance with laws governing protection of ICT
 |
| 1. Apply computer software in solving tasks
 | * 1. ***Word processing concepts*** are applied in resolving workplace tasks, report writing and documentation as per the job requirements
	2. ***Word processing utilities*** are applied in accordance with workplace procedures
	3. Worksheet layout is prepared in accordance with work procedures
	4. Worksheet is built and data manipulated in the worksheet in accordance with workplace procedures
	5. Continuous data manipulated on worksheet is undertaken in accordance with work requirements
	6. Database design and manipulation is undertaken in accordance with office procedures
	7. Data sorting, indexing, storage, retrieval and security is provided in accordance with workplace procedures
 |
| 1. Apply internet and email in communication at workplace
 | * 1. Electronic mail addresses are opened and applied in workplace communication in accordance with office policy
	2. Office internet functions are defined and executed in accordance with office procedures
	3. ***Network configuration*** is determined in accordance with office operations procedures
	4. Official World Wide Web is installed and managed according to workplace procedures
 |
| 1. Apply Desktop publishing in official assignments
 | * 1. Desktop publishing functions and tools are identified in accordance with manufactures specifications
	2. Desktop publishing tools are developed in accordance with work requirements
	3. Desktop publishing tools are applied in accordance with workplace requirements
	4. Typeset work is enhanced in accordance with workplace standards
 |
| 1. Prepare presentation packages
 | * 1. Types of presentation packages are identified in accordance with office requirements
	2. Slides are created and formulated in accordance with workplace procedures
	3. Slides are edited and run-in accordance with work procedures
	4. Slides and handouts are printed according to work requirements
 |

**RANGE**

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Appropriate computer hardware may include but not limited to:
 | Collection of physical parts of a computer system such as:* Computer case, monitor, keyboard, and mouse
* All the parts inside the computer case, such as the hard disk drive, motherboard and video card
 |
| 1. Data security and privacy may include but not limited to:
 | * Confidentiality of data
* Cloud computing
* Integrity -but-curious data surfing
 |
| 1. Security and control measures may include but not limited to:
 | * Counter measures against cyber terrorism
* Risk reduction
* Cyber threat issues
* Risk management
* Pass-wording
 |
| 1. Security threats may include but not limited to:
 | * Cyber terrorism
* Hacking
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Analytical skills
* Interpretation
* Typing
* Communication
* Computing (applying fundamental operations such as addition, subtraction, division and multiplication)
* Using calculator
* Basic ICT skills

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Software concept
* Functions of computer software and hardware
* Data security and privacy
* Computer security threats and control measures
* Technology underlying cyber-attacks and networks
* Cyber terrorism
* Computer crimes
* Detection and protection of computer crimes
* Laws governing protection of ICT
* Word processing;
* Functions and concepts of word processing.
* Documents and tables creation and manipulations
* Mail merging
* Word processing utilities
* Spread sheets;
* Meaning, formulae, function and charts, uses and layout
* Data formulation, manipulation and application to cells
* Database;
* Database design, data manipulation, sorting, indexing, storage retrieval and security
* Desktop publishing;
* Designing and developing desktop publishing tools
* Manipulation of desktop publishing tools
* Enhancement of typeset work and printing documents
* Presentation Packages;
* Types of presentation Packages
* Creating, formulating, running, editing, printing and presenting slides and handouts
* Networking and Internet;
* Computer networking and internet.
* Electronic mail and world wide web
* Emerging trends and issues in ICT;
* Identify and integrate emerging trends and issues in ICT
* Challenges posed by emerging trends and issues

**EVIDENCE** **GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate:* 1. Identified and controlled security threats
	2. Detected and protected computer crimes
	3. Applied word processing in office tasks
	4. Designed, prepared work sheet and applied data to the cells in accordance to workplace procedures
	5. Opened electronic mail for office communication as per workplace procedure
	6. Installed internet and World Wide Web for office tasks in accordance with office procedures
	7. Integrated emerging issues in computer ICT applications
	8. Applied laws governing protection of ICT
 |
| 1. Resource Implications
 |  The following resources should be provided:* 1. Access to relevant workplace where assessment can take place
	2. Appropriately simulated environment where assessment can take place
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Observation
	2. Oral questioning
	3. Written test
	4. Portfolio of Evidence
	5. Interview
	6. Third party report
 |
| 1. Context of Assessment
 | Competency may be assessed:1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**DEMONSTRATE ENTREPRENEURIAL SKILLS**

**UNIT CODE :** LOG/OS/MTL/BC/04/6/A

**UNIT DESCRIPTION**

This unit covers the competencies required to demonstrate understanding of entrepreneurship. It involves demonstrating understanding of an entrepreneur, entrepreneurship, and self-employment, identifying entrepreneurship opportunities, creating entrepreneurial awareness, applying entrepreneurial motivation, developing business innovative strategies and developing business plan.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT** | **PERFORMANCE CRITERIA**  |
| 1. Demonstrate understanding of an Entrepreneur
 | 1. Entrepreneurs and Business persons are distinguished as per principles of entrepreneurship
2. ***Types of entrepreneurs*** are identified as per principles of entrepreneurship
3. Ways of becoming an Entrepreneur are identified as per principles of Entrepreneurship
4. ***Characteristics of Entrepreneurs*** are identified as per principles of Entrepreneurship
5. Factors affecting Entrepreneurship development are explored as per principles of Entrepreneurship
 |
| 1. Demonstrate understanding of Entrepreneurship and self-employment
 | 1. Entrepreneurship and self-employment are distinguished as per principles of entrepreneurship
2. Importance of self-employment is analysed based on business procedures and strategies
3. ***Requirements for entry into self-employment*** are identified according to business procedures and strategies
4. Role of an Entrepreneur in business is determined according to business procedures and strategies
5. Contributions of Entrepreneurs to National development are identified as per business procedures and strategies
6. Entrepreneurship culture in Kenya is explored as per business procedures and strategies
7. Born or made Entrepreneurs are distinguished as per entrepreneurial traits
 |
| 1. Identify Entrepreneurship opportunities
 | 1. Sources of business ideas are identified as per business procedures and strategies
2. Business ideas and opportunities are generated as per business procedures and strategies
3. Business life cycle is analysed as per business procedures and strategies
4. Legal aspects of business are identified as per procedures and strategies
5. Product demand is assessed as per market strategies
6. Types of ***business environment*** are identified and evaluated as per business procedures
7. Factors to consider when evaluating business environment are explored based on business procedure and strategies
8. Technology in business is incorporated as per best practice
 |
| 1. Create entrepreneurial awareness
 | 1. ***Forms of businesses*** are explored as per business procedures and strategies
2. Sources of business finance are identified as per business procedures and strategies
3. Factors in selecting source of business finance are identified as per business procedures and strategies
4. ***Governing policies*** on Small Scale Enterprises (SSEs) are determined as per business procedures and strategies
5. Problems of starting and operating SSEs are explored as per business procedures and strategies
 |
| 1. Apply entrepreneurial motivation
 | 1. ***Internal and external motivation*** factors are determined in accordance with motivational theories
2. Self-assessment is carried out as per entrepreneurial orientation
3. Effective communications are carried out in accordance with communication principles
4. Entrepreneurial motivation is applied as per motivational theories
 |
| 1. Develop innovative business strategies
 | 1. Business innovation strategies are determined in accordance with the organization strategies
2. Creativity in business development is demonstrated in accordance with business strategies
3. ***Innovative business strategies*** are developed as per business principles
4. Linkages with other entrepreneurs are created as per best practice
5. ICT is incorporated in business growth and development as per best practice
 |
| 1. Develop Business Plan
 | 1. Identified Business is described as per business procedures and strategies
2. Marketing plan is developed as per business plan format
3. Organizational/Management plan is prepared in accordance with business plan format
4. Production/operation plan in accordance with business plan format
5. Financial plan is prepared in accordance with the business plan format
6. Executive summary is prepared in accordance with business plan format
7. Business plan is presented as per best practice
 |

**RANGE**

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range**  |
| 1. Types of entrepreneurs may include but not limited to:
 | * Innovators
* Imitators
* Craft
* Opportunistic
* Speculators
 |
| 1. Characteristics of Entrepreneurs may include but not limited to:
 | * Creative
* Innovative
* Planner
* Risk taker
* Networker
* Confident
* Flexible
* Persistent
* Patient
* Independent
* Future oriented
* Goal oriented
 |
| 1. Requirements for entry into self-employment may include but not limited to
 | * Technical skills
* Management skills
* Entrepreneurial skills
* Resources
* Infrastructure
 |
| 1. Internal and external motivation may include but not limited to:
 | * Interest
* Passion
* Freedom
* Prestige
* Rewards
* Punishment
* Enabling environment
* Government policies
 |
| 1. Business environment may include but not limited to:
 | * External
* Internal
* Intermediate
 |
| 1. Forms of businesses may include but not limited to:
 | * Sole proprietorship
* Partnership
* Limited companies
* Cooperatives
 |
| 1. Governing policies may include but not limited to:
 | * Increasing scope for finance
* Promoting cooperation between entrepreneurs and private sector
* Reducing regulatory burden on entrepreneurs
* Developing IT tools for entrepreneurs
 |
| 1. Innovative business strategies may include but not limited to:
 | * New products
* New methods of production
* New markets
* New sources of supplies
* Change in industrialization
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Analytical
* Management
* Problem-solving
* Root-cause analysis
* Communication

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Decision making
* Business communication
* Change management
* Competition
* Risk
* Net working
* Time management
* Leadership
* Factors affecting entrepreneurship development
* Principles of Entrepreneurship
* Features and benefits of common operational practices, e. g., continuous improvement (kaizen), waste elimination,
* Conflict resolution
* Health, safety and environment (HSE) principles and requirements
* Customer care strategies
* Basic financial management
* Business strategic planning
* Impact of change on individuals, groups and industries
* Government and regulatory processes
* Local and international market trends
* Product promotion strategies
* Market and feasibility studies
* Government and regulatory processes
* Local and international business environment
* Relevant developments in other industries
* Regional/ County business expansion strategies

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | 1. Assessment requires evidence that the candidate:
2. Distinguished entrepreneurs and businesspersons correctly
3. Identified ways of becoming an entrepreneur appropriately
4. Explored factors affecting entrepreneurship development appropriately
5. Analysed importance of self-employment accurately
6. Identified requirements for entry into self-employment correctly
7. Identified sources of business ideas correctly
8. GeneratedBusiness ideas and opportunities correctly
9. Analysed business life cycle accurately
10. Identified legal aspects of business correctly
11. Assessed product demand accurately
12. Determined Internal and external motivation factors appropriately
13. Carried out communications effectively
14. Identified sources of business finance correctly
15. Determined Governing policy on small scale enterprise appropriately
16. Explored problems of starting and operating SSEs effectively
17. Developed Marketing, Organizational/Management, Production/Operation and Financial plans correctly
18. Prepared executive summary correctly
19. Determined business innovative strategies appropriately
20. Presented business plan effectively
 |
| 1. Resource Implications
 | The following resources should be provided:1. Access to relevant workplace where assessment can take place
2. Appropriately simulated environment where assessment can take place
 |
| 1. Methods of Assessment
 | 1. Written tests
2. Oral questions
3. Third party report
4. Interviews
5. Portfolio of Evidence
 |
| 1. Context of Assessment
 | Competency may be assessed 1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE EMPLOYABILITY SKILLS

**UNIT CODE:** LOG/OS/MTL/BC/05/6/A

**UNIT DESCRIPTON**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating interpersonal communication, critical safe work habits, leading a workplace team, planning and organizing work, maintaining professional growth and development, demonstrating workplace learning, problem solving skills and managing ethical performance.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms are elaborated in the Range*** |
| 1. Conduct self-management
 | 1. Personal vision, mission and goals are formulated based on potential and in relation to organization objectives
2. Emotional intelligence is demonstrated as per workplace requirements.
3. Individual performance is evaluated and monitored according to the agreed targets.
4. Assertiveness is developed and maintained based on the requirements of the job.
5. Accountability and responsibility for own actions are demonstrated based on workplace instructions.
6. Self-esteem and a positive self-image are developed and maintained based on values.
7. Time management, attendance and punctuality are observed as per the organization policy.
8. Goals are managed as per the organization’s objective
9. Self-strengths and weaknesses are identified based on personal objectives
 |
| 1. Demonstrate interpersonal communication
 | 1. Writing skills are demonstrated as per communication policy
2. Negotiation and persuasion skills are demonstrated as per communication policy
3. Internal and external stakeholders’ needs are identified and interpreted as per the communication policy
4. Communication networks are established based on workplace policy
5. Information is shared as per communication policy

  |
| 1. Demonstrate critical safe work habits
 | * 1. Stress is managed in accordance with workplace policy.
	2. Punctuality and time consciousness is demonstrated in line with workplace policy.
	3. Personal objectives are integrated with organization goals based on organization’s strategic plan.
	4. ***Resources*** are utilized in accordance with workplace policy.
	5. Work priorities are set in accordance to workplace goals and objectives.
	6. Leisure time is recognized and utilized in line with personal objectives.
	7. ***Drugs and substances of abuse*** are identified and avoided based on workplace policy.
	8. HIV and AIDS prevention awareness is demonstrated in line with workplace policy.
	9. Safety consciousness is demonstrated in the workplace based on organization safety policy.
	10. ***Emerging issues*** are identified and dealt with in accordance with organization policy.
 |
| 1. Lead a workplace team
 | 1. Performance targets for the ***team*** are set based on organization’s objectives
2. Duties are assigned in accordance with the organization policy.
3. ***Forms of communication*** in a team are established according to organization’s policy.
4. Team performance is evaluated based on set targets as per workplace policy.
5. Conflicts are resolved between team members in line with organization policy.
6. Gender related issues are identified and mainstreamed in accordance workplace policy.
7. Human rights and fundamental freedoms are identified and respected as Constitution of Kenya 2010.
8. Healthy relationships are developed and maintained in line with workplace.
 |
| 1. Plan and organize work
 | 1. Work plans are prepared based on activities and budget.
2. Assigned tasks are interpreted and expectations identified as per the workplace instructions.
3. Task occupational safety and health requirements are identified and observed regulations.
4. Work resources are identified, mobilized, allocated and utilized based on organization work plans.
5. Work activities are monitored and evaluated in line with work plans and workplace policy.
6. Work plans are reviewed based on target and available resources.
 |
| 1. Maintain professional growth and development
 | * 1. Personal training needs are identified and assessed in line with the requirements of the job.
	2. ***Training and career opportunities*** are identified and utilized based on job requirements.
	3. Resources for training are mobilized and allocated based organizations and individual skills needs.
	4. Licensees and certifications relevant to job and career are obtained and renewed as per policy.
	5. Work priorities and personal commitments are balanced and managed based on requirements of the job and personal objectives.
	6. Recognitions are sought as proof of career advancement in line with professional requirements.
 |
| 1. Demonstrate workplace learning
 | * 1. Learning opportunities are sought and managed based on job requirement and organization policy.
	2. Improvement in performance is demonstrated based on courses attended.
	3. Application of learning is demonstrated in both technical and non-technical aspects based on requirements of the job
	4. Time and effort is invested in learning new skills based on job requirements
	5. Initiative is taken to create more effective and efficient processes and procedures in line with workplace policy.
	6. New systems are developed and maintained in accordance with the requirements of the job.
	7. Awareness of personal role in workplace ***innovation*** is demonstrated based on requirements of the job.
 |
| 1. Demonstrate problem solving skills
 | * 1. Creative, innovative and practical solutions are developed based on the problem
	2. Independence and initiative in identifying and solving problems is demonstrated based on requirements of the job.
	3. Team problems are solved as per the workplace guidelines
	4. Problem solving strategies are applied as per the workplace guidelines
	5. Problems are analyzed and assumptions tested as per the context of data and circumstances
 |
| 1. Manage ethical performance
 | * 1. Policies and guidelines are observed as per the workplace requirements
	2. Self-worth and professionalism is exercised in line with personal goals and organizational policies
	3. Code of conduct is observed as per the workplace requirements
	4. Integrity is demonstrated as per legal requirement
 |

**RANGE**

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Drug and substance abuse may include but not limited to:
 | Commonly abused* Alcohol
* Tobacco
* Miraa
* Over-the-counter drugs
* Cocaine
* Bhang
* Glue
 |
| 1. Feedback may include but not limited to:
 | * Verbal
* Written
* Informal
* Formal
 |
| 1. Relationships may include but not limited to:
 | * Man/Woman
* Trainer/trainee
* Employee/employer
* Client/service provider
* Husband/wife
* Boy/girl
* Parent/child
* Sibling relationships
 |
| 1. Forms of communication may include but not limited to:
 | * Written
* Visual
* Verbal
* Non verbal
* Formal and informal
 |
| 1. Team may include but not limited to:
 | * Small work group
* Staff in a section/department
* Inter-agency group
 |
| 1. Personal growth may include but not limited to:
 | * Growth in the job
* Career mobility
* Gains and exposure the job gives
* Net workings
* Benefits that accrue to the individual as a result of noteworthy performance
 |
| 1. Personal objectives may include but not limited to:
 | * Long term
* Short term
* Broad
* Specific
 |
| 1. Trainings and career opportunities may includes but not limited to
 | * Participation in training programs
* Serving as Resource Persons in conferences and workshops
 |
| 1. Resource may include may but not limited to:
 | * Human
* Financial
* Technology
 |
| 1. Innovation may include but not limited to:
 | * New ideas
* Original ideas
* Different ideas
* Methods/procedures
* Processes
* New tools
 |
| 1. Emerging issues may include but not limited to:
 | * Terrorism
* Social media
* National cohesion
* Open offices
 |
| 1. Range of media for learning may include but not limited to:
 | * Mentoring
* peer support and networking
* IT and courses
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Interpersonal
* Communication
* Critical thinking
* Organizational
* Negotiation
* Monitoring
* Evaluation
* Record keeping
* Problem solving
* Decision Making
* Resource utilization
* Resource mobilization

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Work values and ethics
* Company policies
* Company operations, procedures and standards
* Occupational Health and safety procedures
* Fundamental rights at work
* Workplace communication
* Concept of time
* Time management
* Decision making
* Types of resources
* Work planning
* Organizing work
* Monitoring and evaluation
* Record keeping
* Gender mainstreaming
* HIV and AIDS
* Drug and substance abuse
* Professional growth and development
* Technology in the workplace
* Innovation
* Emerging issues

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical aspects of Competency
 | Assessment requires evidence that the candidate:* 1. Conducted self-management
	2. Demonstrated interpersonal communication
	3. Demonstrated critical safe work habits
	4. Demonstrated the ability to lead a workplace team
	5. Planned and organized work
	6. Maintained professional growth and development
	7. Demonstrated workplace learning
	8. Demonstrated problem solving skills
	9. Demonstrated the ability to manage performance ethically
 |
| 1. Resource Implications
 | The following resources should be provided:1. Access to relevant workplace where assessment can take place
2. Appropriately simulated environment where assessment can take place
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through: 1. Observation
2. Oral questioning
3. Written test
4. Portfolio of Evidence
5. Interview
6. Third party report
 |
| 1. Context of Assessment
 | Competency may be assessed:1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE ENVIRONMENTAL LITERACY

**UNIT CODE:** LOG/OS/MTL/BC/06/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate environmental literacy. It involves, controlling environmental hazard and environmental pollution, demonstrating sustainable resource use, evaluating current practices in relation to resource usage, identifying environmental legislations/conventions for environmental concerns, implementing specific environmental programs, monitoring activities on environmental protection/Programs , analysing resource use and developing resource conservation plans

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms are elaborated in the Range*** |
| 1. Control environmental hazard
 | 1. Storage methods for environmentally hazardous materials are strictly followed according to environmental regulations and OSHS.
2. Disposal methods of hazardous wastes are followed according to environmental regulations and OSHS.
3. ***PPE*** is used according to OSHS.
 |
| 1. Control environmental Pollution
 | * 1. Environmental pollution ***control measures*** are implemented in accordance with international protocols.
	2. Procedures for solid waste management are observed according Environmental Management and Coordination Act 1999
	3. Methods for minimizing noise pollution is complied with based on Noise and Excessive Vibration Pollution and Control Regulations, 2009
 |
| 1. Demonstrate sustainable resource use
 | * 1. Methods for minimizing wastage are complied with based on organizational waste management guide
	2. Waste management procedures are employed following principles of 3Rs (Reduce, Reuse, Recycle)
	3. Methods for economizing and reducing resource consumption are practiced as per the Constitution of Kenya 2010 Article 69 .
 |
| 1. Evaluate current practices in relation to resource usage
 | * 1. Information on resource efficiency systems and procedures are collected and provided as per work groups/sector
	2. Current resource usage is measured and recorded as per work group
	3. Current purchasing strategies are analysed and recorded according to industry procedures.
	4. Current work processes to access information and data is analysed following enterprise protocol.
 |
| 1. Identify environmental legislations/conventions for environmental concerns
 | 1. Environmental legislations/conventions and local ordinances are identified according to the different environmental aspects/impact
2. Industrial standard/environmental practices are described according to the different environmental concerns
 |
| 1. Implement specific environmental programs
 | 1. Programs/Activities are identified according to organizations policies and guidelines.
2. Individual roles/responsibilities are determined and performed based on the activities identified.
3. Problems/constraints encountered are resolved in accordance with organizations’ policies and guidelines
4. Stakeholders are consulted based on company guidelines
 |
| 1. Monitor activities on Environmental protection/Programs
 | 1. Activities are periodically monitored and Evaluated according to the objectives of the environmental program
2. Feedback from stakeholders is gathered and considered in Proposing enhancements to the program based on consultations
3. Data gathered are analyzed based on Evaluation requirements
4. Recommendations are submitted based on the findings
5. Management support systems are set/established to sustain and enhance the program
6. Environmental incidents are monitored and reported to
7. concerned/proper authorities
 |
| 1. Analyse resource use
 | 1. All resource consuming processes are Identified as per the organizational work plan
2. Quantity and nature of resource consumed is determined based on processes
3. Resource flow is analysed as per different parts of the process.
4. Wastes are classified according to NEMA regulations on waste management.
 |
| 1. Develop resource Conservation plans
 | 9.1. Efficiency of use/conversion of resources is determined according to industry protocol.9.2. Causes of low efficiency of use of resources are Determined based on industry protocol.9.3. Plans for increasing the efficiency of resource use are developed based on findings. |

**RANGE**

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. PPE may include but not limited to
 | * + Mask
	+ Gloves
	+ Goggles
	+ Safety hat
	+ Overall
* Hearing protector
 |
| 1. Control measures may include but not limited to
 | * Methods for minimizing or stopping spread and ingestion of airborne particles
* Methods for minimizing or stopping spread and ingestion of gases and fumes
* Methods for minimizing or stopping spread and ingestion of liquid wastes
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Measuring
* Recording
* Analytical
* Monitoring
* Communication
* Writing

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* PPEs
* Environmental regulations
* OSHS
* Pollution
* Waste management
* Principle of 3Rs
* Types of resources
* Techniques in measuring current usage of resources
* Environmental hazards
* Regulatory requirements

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate:* 1. Controlled environmental hazard
	2. Controlled environmental pollution
	3. Demonstrated sustainable resource use
	4. Evaluated current practices in relation to resource usage
	5. Demonstrated knowledge of environmental legislations and local ordinances according to the different environmental issues /concerns.
	6. Described industrial standard environmental practices according to the different environmental issues/concerns.
	7. Resolved problems/ constraints encountered based on management standard procedures
	8. Implemented and monitored environmental practices on a periodic basis as per company guidelines
	9. Recommended solutions for the improvement of the program
	10. Monitored and reported to proper authorities any environmental incidents
 |
| 1. Resource Implications
 | The following resources should be provided:* 1. Workplace with storage facilities
	2. Tools, materials and equipment relevant to the tasks (e.g. Cleaning tools, cleaning materials, trash bags)
	3. PPE, manuals and references
	4. Legislation, policies, procedures, protocols and local ordinances relating to environmental protection
	5. Case studies/scenarios relating to environmental Protection
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through:* 1. Observation
	2. Oral questioning
	3. Written test
	4. Portfolio of Evidence
	5. Interview
	6. Third party report
 |
| 1. Context of Assessment
 | Competency may be assessed 1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:** LOG/OS/MTL/BC/07/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate occupational health and safety practices. It involves identifying workplace hazards and risks, identifying and implementing appropriate control measures to hazards and risks and implementing OSH programs, procedures and policies/guidelines.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**These are assessable statements which specify the required level of performance for each of the elements.***Bold and italicized terms are elaborated in the Range*** |
| 1. Identify workplace hazards and risk
 | 1.1 ***Hazards*** in the workplace are identified ***based their indicators*** 1.2 Risks and hazards are evaluated based on legal requirements.1.3 ***OSH concerns*** raised by workers are addressed as per legal requirements.  |
| 1. Control OSH hazards
 | 2.1 Hazard prevention ***and control measures*** are implemented as per legal requirement.2.2 Risk assessment is conductedand a risk matrix developed based on likely impact.2.3 ***Contingency measures***, including ***emergency procedures*** during workplace ***incidents and emergencies*** are recognized and established in accordance with organization procedures. |
| 1. Implement OSH programs
 | 3.1 Company OSH program are identified, evaluated and reviewed based on legal requirements.3.2 Company OSH programs are implemented as per legal requirements.3.3 Workers are capacity built on OSH standards and procedures as per legal requirements3.4 ***OSH-related records*** are maintained as per legal requirements. |

**RANGE**

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Hazards may include but not limited to:
 | * Physical hazards – impact, illumination, pressure, noise,
* vibration, extreme temperature, radiation
* Biological hazards- bacteria, viruses, plants, parasites, mites, molds, fungi, insects
* Chemical hazards – dusts, fibers, mists, fumes, smoke, gasses, vapors
* Ergonomics
* Psychological factors – over exertion/ excessive force,

awkward/static positions, fatigue, direct pressure,* varying metabolic cycles
* Physiological factors – monotony, personal relationship, work out cycle
* Safety hazards (unsafe workplace condition) –confined space, excavations, falling objects, gas leaks, electrical, poor storage of materials and waste, spillage, waste and debris
* Unsafe workers’ act (Smoking in off-limited areas, Substance and alcohol abuse at work)
 |
| 1. Indicators may include but not limited to:
 | * Increased of incidents of accidents, injuries
* Increased occurrence of sickness or health complaints/ symptoms
* Common complaints of workers related to OSH
* High absenteeism for work-related reasons
 |
| 1. OSH concerns may include but not limited to:
 | * Workers’ experience/observance on presence of work hazards
* Unsafe/unhealthy administrative arrangements (prolonged work hours, no break time, constant overtime, scheduling of tasks)
* Reasons for compliance/non-compliance to use of PPEs or other OSH procedures/policies/guidelines
 |
| 1. Safety gears /PPE (Personal Protective Equipment) may include but not limited to:
 | * Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat
* Face protection (mask, shield)
* Apron/Gown/coverall/jump suit
* Anti-static suits
* High-visibility reflective vest
 |
| 1. Appropriate risk controls may include but not limited to:
 | * Appropriate risk controls in order of impact are as follows:
* Eliminate the hazard altogether (i.e., get rid of the dangerous machine)
* Isolate the hazard from anyone who could be harmed (i.e., keep the machine in a closed room and operate it remotely; barricade an unsafe area off)
* Substitute the hazard with a safer alternative (i.e., replace the machine with a safer one)
* Use administrative controls to reduce the risk (i.e., train workers how to use equipment safely; train workers about the risks of harassment; issue signage)
* Use engineering controls to reduce the risk (i.e., attach guards to the machine to protect users)
* Use personal protective equipment (i.e., wear
* gloves and goggles when using the machine)
 |
| 1. Contingency measures may include but not limited to:
 | * Evacuation
* Isolation
* Decontamination
* (Calling designed) emergency personnel
 |
| 1. Incidents and emergencies may include but not limited to:
 | * Chemical spills
* Equipment/vehicle accidents
* Explosion
* Fire
* Gas leak
* Injury to personnel
* Structural collapse
* Toxic and/or flammable vapors emission.
 |
| 1. OSH-related Records may include but not limited to:
 | * Medical/Health records
* Incident/accident reports
* Sickness notifications/sick leave application
* OSH-related trainings obtained
 |

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit of competency.

**Required Skills**

The individual needs to demonstrate the following skills:

* Communication
* Interpersonal
* Presentation
* Risk assessment
* Evaluation
* Critical thinking
* Problem solving
* Negotiation

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* General OSH Principles
* Occupational hazards/risks recognition
* OSH organizations providing services on OSH evaluation and/or work environment measurements (WEM)
* National OSH regulations; company OSH policies and protocols
* Systematic gathering of OSH issues and concerns
* General OSH principles
* National OSH regulations
* Company OSH and recording protocols, procedures and policies/guidelines
* Training and/or counseling methodologies and strategies

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate:1. Identified hazards in the workplace based their indicators
2. Evaluated workplace hazards based on legal requirements.
3. Addressed OSH concerns raised by workers as per legal requirements.
4. Implemented hazard prevention and control measures as per legal requirement.
5. Conducted risk assessment as per legal requirement.
6. Developed risk matrix based on likely impact.
7. Recognized and established contingency measures in accordance with organization procedures.
8. Identified, evaluated and reviewed company OSH program based on legal requirements.
9. Implemented company OSH programs as per legal requirements.
10. Capacity built workers on OSH standards and procedures as per legal requirements
11. Maintained OSH-related records as per legal requirements.
 |
| 1. Resource Implications
 | The following resources should be provided:1. Access to relevant workplace where assessment can take place
2. Appropriately simulated environment where assessment can take place
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through: 1. Observation
2. Oral questioning
3. Written test
4. Portfolio of Evidence
5. Interview
6. Third party report
 |
| 1. Context of Assessment
 | Competency may be assessed:1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CORE COMPETENCIES

# MANAGE PORT OPERATIONS

**UNIT CODE:** LOG/OS/MTL/CR/01/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to manage port operations. It involves marketing a port, determining port charges and dues, conserving port environments, carrying out port planning, managing ship and cargo logistics, enhancing port safety and security and managing stakeholders activities.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Market a Port
 | * 1. ***Marketing goals/objectives*** are determined as per organisational needs and workplace policy
	2. Marketing strategies to achieve marketing goals are developed as per SOPs
	3. Marketing plan is developed as per SOPs
	4. Marketing plan is implemented as per SOPs
 |
| 1. Determine port charges and dues
 | * 1. ***Port charges and dues*** are identified as per SOPs
	2. Charges for marine services and ship dues are calculated in line with Kenya Ports Authority Tariff
	3. Charges for stevedoring services are calculated in line with Kenya Ports Authority Tariff
	4. Charges for shore handling, wharfage and storage services are calculated in line with Kenya Ports Authority Tariff
	5. Charges for miscellaneous services are calculated in line with Kenya Ports Authority Tariff
 |
| 1. Conserve port environment
 | * 1. Port activities that affect port environment are identified
	2. Environmental Impact Assessment (EIA) is carried out as per SOPs
	3. Environmental policies and guidelines are reviewed as per SOPs
	4. Environmental management tools are developed in line with environmental policies and guidelines
	5. Environmental management practices are applied as per SOPs
 |
| 1. Carry out port planning
 | * 1. Port objectives are identified as per SOPs
	2. ***SWOT analysis*** is carried out as per SOPs
	3. Port plan strategies are developed as per SOPs
	4. Baseline survey is carried out as per SOPs
	5. ***Port plan*** is developed as per SOPs
 |
| 1. Manage ship and cargo logistics
 | * 1. ***Logistics documents*** are prepared and/or obtained as per SOPs
	2. Ships and cargo plans are prepared and executed as per SOPs
	3. Ships and cargo are handled as per SOPs
 |
| 1. Enhance port safety and security
 | * 1. Safety management policy is developed in line with OSH Act 2007 and International Safety Management (ISM) Code
	2. Security management policy is developed in line with International Ship and Port facility Security (ISPS) Code
	3. Safety and security management policies are implemented as per SOPs
 |
| 1. Manage stakeholders’ activities
 | * 1. ***Stakeholders*** are engaged as per Port Community Charter
	2. ***Stakeholder consultative meetings*** are conducted as per SOPs
	3. Daily ship operations are planned in consultation with shipping representatives as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Marketing goals/objectives include but not limited to:
 | * Expanding break-bulk customer base and activity
* Increasing container customer base and volume
* Maximizing utilization of port properties and facilities
* Expanding bulk cargo customer base and activity
 |
| 1. Port charges and dues include but not limited to:
 | * Marine services and ship dues
* Stevedoring services
* Shore handling, wharfage and storage services
* Miscellaneous services
 |
| 1. SWOT analysis include but not limited to:
 | * Strengths
* Weaknesses
* Opportunities
* Threats
 |
| 1. Port plan include but not limited to:
 | * Infrastructure and superstructure plan
* Resource plan
* Port layout
 |
| 1. Logistics documents include but not limited to:
 | * Ship movement
* 14-day list
* Cargo manifest
* Vessel Traffic Service (VTS) Log sheet
* Ship working and lighterage report
 |
| 1. Stakeholders include but not limited to:
 | * Shipping lines
* Other Government Agencies (OGA)
* CFS Operators
* Kenya Transport Association (KTA)
* Security Agencies
* Regional Revenue Authorities
* Third parties (expediters, clearing and forwarding agents)
 |
| 1. Stakeholder consultative meetings include but not limited to:
 | * Weekly meetings
* Ad-hoc meetings
 |

**REQUIRED KNOWLEDGE**

* Ports
* Port charges and dues
* Marketing strategies
* Port development
* Port policies
* Berths and teminals
* Environmental management
* Stakeholders
* Other government authorities operations and procedures
* Kenya Ports Authority Tarrif
* Maritime Conventions

**SKILLS**

* Marketing
* Strategic
* Critical thinking
* Problem solving
* Monitoring

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Demonstrated ability to market a port
2. Determined port charges and dues
3. Demonstrated ability to conserve port environment
4. Demonstrated ability to manage ship and cargo logistics
5. Demonstrated ability to enhance port safety and security
6. Demonstrated ability to manage stakeholders’ activities
 |
| 1. Resource Implications
 | The following resources should be provided:1. Computers
2. Stationery
3. Environmental policies and guidelines
4. Kenya Ports Authority Tariff
5. International Maritime Dangerous Goods (IMDG) Code
6. ISPS and ISM codes
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PROCESS MARINE INSURANCE

**UNIT CODE:** LOG/OS/MTL/CR/02/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to process marine insurance. It involves segmenting marine insurance market, processing marine insurance claims, processing marine insurance cover, discharging marine insurance contract and processing marine hull and machinery claims.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Segment marine insurance market
 | * 1. Rationale for ***segmentation*** is determined in accordance with service characteristics
	2. Market segments are defined in accordance with the risk criteria
	3. Segments are analysed in accordance with ***the cluster***
	4. Target segment is selected in accordance with service provision
 |
| 1. Process marine insurance claims
 | * 1. Detailed list of items damaged or lost is obtained from claimant as per SOPs
	2. Claim investigation is carried out as per SOPs
	3. Amount of loss or damages covered by the insurance policy is determined based on claim investigation results
	4. Claimant insurance policy is reviewed
	5. Items covered by the insurance policy are identified as per SOPs
	6. Damage or loss evaluation is conducted on items covered by the insurance policy
	7. Claim is settled and payment facilitated as per SOPs
 |
| 1. Process marine insurance cover
 | * 1. Marine insurance company is identified as per SOPs
	2. Marine declaration form/requisition form is submitted with the insurer as per SOPs
	3. Risk to be insured is evaluated based on the insurance company workplace policy
	4. Premium rate alongside stamp fee are determined
	5. Insurance premium is paid
	6. Cover note is issued by insurer as per SOPs
	7. Marine insurance policy is prepared and issued as per SOPs
 |
| 1. Discharge marine insurance contract
 | * 1. ***Circumstances*** warranting discharge of marine insurance contract are established
	2. Marine insurance contract is discharged as per workplace policy/guidelines
 |
| 1. Process marine hull and machinery claims
 | * 1. ***Required details*** to process marine hull and machinery claims are obtained as per SOPs
	2. Claimant insurance policy is reviewed and adjusted as per SOPs
	3. Items covered by the insurance policy are identified as per SOPs
	4. Damage evaluation is conducted on items covered by the insurance policy
	5. Claim is settled and payment facilitated as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Segmentation include but not limited to:
 | * Hull and machinery
* Cargo risk
* Third party liability risks
* War risk
 |
| 1. The cluster include but not limited to:
 | * Security
* Ship
* Cargo
* Third party
* Loss of earnings
 |
| 1. Required details include but not limited to:
 | * Accident claim form
* Original police abstract
* Copy of ownership documents
* Statement by the insured on circumstances of the loss
* Survey report
* Repair/replacement invoices
 |
| 1. Circumstances include but not limited to:
 | * Discharge by performance
* Discharge by substituted agreement
* Discharge by lapse of time
* Discharge by operation of law
* Discharge by impossibility of performance
* Discharge by accord and satisfaction
* Discharge by breach
 |

**REQUIRED KNOWLEDGE**

* Marine Insurance Act
* Legal regulations and laws
* Marine insurance claims
* Marine hull and machinery
* Market segmentation
* Law of carriage of goods by sea

**SKILLS**

* Negotiation
* Investigation
* Coordination
* Planning
* Critical thinking
* Problem solving
* ICT

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Demonstrated ability to segment insurance market
2. Demonstrated ability to process marine insurance claims
3. Demonstrated ability to process marine insurance cover
4. Demonstrated ability to discharge marine insurance contract
5. Demonstrated ability to process marine hull and machinery claims
 |
| 1. Resource Implications
 | The following resources should be provided:1. Marine Insurance Act
2. Simulated workplace environment
3. Computer
4. Computer software
5. Stationery
6. Sample documents
7. Hague Rules/Hamburg Rules
8. List of ship underwriters
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. On-the-job
2. Off-the –job
3. During Industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PERFORM CARGO AND TERMINAL OPERATIONS

**UNIT CODE:** LOG/OS/MTL/CR/03/6/A

**UNIT DESCRIPTION**

This unit decribes competencies required to perform cargo and terminal operations. It involves developing cargo plan, performing cargo handling, managing cargo inventory, monitoring loading/offloading operations, optimising allocation of equipment and monitoring gate operations

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Develop cargo plan
 | * 1. Cargo characteristics are identified and their impact on safety, the environment and vessel operations are outlined
	2. Communication is carried out with terminal personnel to establish loading and unloading arrangements
	3. ***Cargo plan*** is prepared as per SOPs
 |
| 1. Perform cargo handling (loading)
 | * 1. Details of tonnages/capacities of cargo are obtained from the cargo manifest as per SOPs
	2. Loading plan for the ship is developed as per SOPs
	3. Ship stability assessment is carried out based on ***vessel details***
	4. Cargo space is cleaned and ***other measures*** are carried out in line with cargo requirements
	5. ***Cargo*** is loaded on to the vessel as per SOPs
	6. Loading operations are monitored as per SOPs
	7. ***Specific cargo*** documents are obtained and administered as per SOPs
	8. Draught is monitored to ensure safety of the vessel at sea
	9. Damaged cargo received on board is noted and bill of lading endorsed
	10. Cargo is stowed and secured in stowed position as per SOPs
	11. Cargo documents are dispatched to company agents as per SOPs
 |
| 1. Manage cargo inventory
 | * 1. Inventory management policy is developed in line with workplace policy
	2. Inventory is categorized according to cargo type
	3. Inventory systems suitable for automation are identified
	4. Stock balancing is carried out as per SOPs
 |
| 1. Monitor loading/offloading operations
 | * 1. Loading/offloading ***documents*** are prepared and/or obtained as per SOPs
	2. Loading/offloading plan is developed as per SOPs
	3. Loaded/offloaded cargo is handled as per SOPs
 |
| 1. Optimise allocation of equipment
 | * 1. Cargo and terminal operations equipment are identified as per the nature of the task
	2. Cargo and terminal operation plans are prepared as per SOPs
	3. Cargo and terminal operations equipment are allocated based on the required tasks
 |
| 1. Monitor gate operations
 | * 1. ***Gate operations documents*** are prepared and/or obtained as per SOPs
	2. Gate operations plans are developed as per SOPs
	3. Cargo is verified and inspected as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Cargo plan include but not limited to:
 | * Ship plan
* Yard plan
 |
| 1. Vessel details include but not limited to:
 | * Tonnage
* Bunker capacity
* Stores
* Ballast arrangements
* Length Over All (LOA)
* Draught
 |
| 1. Other measures include but not limited to:
 | * Testing of bilges
* Hold lighting checks
* Ventilation checks
* General hold conditions
 |
| 1. Cargo include but not limited to:
 | * General cargo
* Bulk homogenous cargo
* Special cargo
 |
| 1. Specific cargo include but not limited to:
 | * Hazardous parcels
* Live stock
* Valuables
 |
| 1. Documents include but not limited to:
 | * Ship loading list
* Wagon loading list
* Consignment notes
* Pre-advice
* Bay plan
* Wagon loading plan
 |
| 1. Gate operations documents include but not limited to:
 | * Gate pass
* Position slip
* Pre-advice
* Custom clearance
* Pick up order
 |

**REQUIRED KNOWLEDGE**

* Transportation
* Quality standards for services
* Customer and personal service
* Evaluation of customer satisfaction
* Geography
* Public safety and security
* Sales and marketing
* Telecommunication
* Cargo clearance
* ICT

**SKILLS**

* Negotiation
* Social perceptiveness
* Time management
* Coordination
* Problem solving
* Critical thinking
* Monitoring
* Decision making

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Developed cargo plan
2. Monitored cargo handling (yard)
3. Demonstrated ability to manage cargo inventory
4. Monitored loading operations (ship)
5. Optimised allocation of equipment
6. Monitored gate operations
 |
| 1. Resource Implications
 | The following resources should be provided:1. Computers
2. Computer software
3. Stationery
4. Simulated workplace environment
5. Sample documents
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. On-the-job
2. Off-the –job
3. During Industrial attachment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PERFORM CONTAINER OPERATION DUTIES

**UNIT CODE:** LOG/OS/MTL/CR/04/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to perform container operation duties. It involves developing container terminal operation plans, allocating container terminal resources, performing empty container operations, managing shipping containers, carrying out container segregation, monitoring gate operaions, monitoring loading/offloading operations and managing container yard operations.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Develop container terminal operation plans
 | * 1. Berth plan is developed as per SOPs
	2. Yard plan is developed as per SOPs
	3. ***Resource plan*** is developed as per SOPs
 |
| 1. Allocate container terminal resources
 | * 1. Berth is allocated as per SOPs
	2. Yard is allocated as per SOPs
	3. ***Equipment*** is allocated as per SOPs
	4. ***Labour*** is allocated as per SOPs
 |
| 1. Perform empty container operations
 | * 1. ***Empty container operations documents*** are prepared and/or obtained as per SOPs
	2. Empty container operation plans are developed as per SOPs
	3. Empty containers are handled as per SOPs
 |
| 1. Manage shipping containers
 | * 1. Shipping container ***documents*** are prepared and/or obtained as per SOPs
	2. Shipping container plans are developed as per SOPs
	3. Shipping containers are ***handled*** as per SOPs
 |
| 1. Carry out container segregation
 | * 1. Shipping documents are obtained and reviewed as per SOPs
	2. ***Nature of cargo*** is identified as per SOPs
	3. Cargo segregation plans are developed as per SOPs
	4. Containers are ***segregated*** as per SOPs
 |
| 1. Monitor gate operations
 | * 1. ***Gate operations documents*** are prepared and/or obtained as per SOPs
	2. Gate operations plans are developed as per SOPs
	3. Cargo is verified and inspected as per SOPs
 |
| 1. Monitor loading/offloading operations
 | * 1. Loading/offloading ***documents*** are prepared and/or obtained as per SOPs
	2. Loading/offloading plan is developed as per SOPs
	3. Loaded/offloaded cargo is handled as per SOPs
 |
| 1. Manage container yard operations
 | * 1. ***Yard plan*** is developed as per SOPs
	2. Yard ***resources*** are allocated as per SOPs
	3. Yard cargo is ***handled*** as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Resource plan include but not limited to:
 | * Equipment
* Labour
 |
| 1. Equipment include but not limited to:
 | * Yard equipment
* Quay equipment
* Internal Transfer equipment
 |
| 1. Labour include but not limited to:
 | * Yard labour
* Quay labour
* Administration labour
 |
| 1. Empty container operations documents include but not limited to:
 | * Empty container manifest
* Position slip (empty container)
* Pre-advice
* Loading list
* Pick up order
* Customs release
 |
| 1. Documents include but not limited to:
 | * Baplie (bay plan)
* Cargo Manifests
* Pick up orders
* OGA releases
* Delivery orders
* Position slip
* Shipping order/pre-advice
* Container loading list
* Loading plan
 |
| 1. Handled include but not limited to:
 | * Stevedoring
* Delivery/receipt
* Housekeeping
* Quay transfer
 |
| 1. Nature of cargo include but not limited to:
 | * Hazardous (IMDG Code)
* Out of Gauge (size and type)
* Reefer (storage requirements)
* General cargo
 |
| 1. Segregated include but not limited to:
 | * Nature of cargo
* Size and type
* Status (inbound, outbound etc.)
 |
| 1. Gate operations documents include but not limited to:
 | * Gate pass
* Position slip
* Pre-advice
* Custom clearance
* Pick up order
 |
| 1. Documents include but not limited to:
 | * Ship loading list
* Wagon loading list
* Consignment notes
* Pre-advice
* Bay plan
* Wagon loading plan
 |
| 1. Yard plan include but not limited to:
 | * Export block plan
* Import block plan
 |
| 1. Handled include but not limited to:
 | * Deliveries of containers
* Receipt of containers
* Remarshalling
* Housekeeping
 |

**REQUIRED KNOWLEDGE**

* Port charges
* Bay plans
* Stowage plans
* ict knowledge
* Berths and terminals
* Documentation
* Shipping documents
* Delivery documents
* Ship operations
* Safety and security
* Cargo handling
* Operating procedures
* Yard plans

**SKILLS**

* Digital
* Critical thinking
* Planning
* Coordination
* Problem solving
* Decision making
* Monitoring

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Developed container terminal plans
2. Demonstrated ability to allocate container terminal resources
3. Demonstrated ability to perform empty container operations
4. Demonstrated ability to manage shipping containers
5. Carried out container segregation
6. Demonstrated ability to monitor gate operations
7. Demonstrated ability to monitor loading/offloading operations
8. Demonstrated ability to manage container yard operations
 |
| 1. Resource Implications
 | The following resources should be provided:1. Computers
2. Computer software
3. Communication equipment
4. Stationery
5. Simulated workplace environment
6. Sample documents
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. Competency may be assessed on the job,
2. Off the job or a combination of these.
3. Off the job assessment must be undertaken in a closely simulated workplace environment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# MANAGE SHIPPING BUSINESS

**UNIT CODE:** LOG/OS/MTL/CR/05/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to manage shipping business. It involves preparing shipping plan, executing shipping business contract, controlling shipping budget, managing shipping documents, performing cargo connection, handling cargo claims, managing operations resources, performing ship husbandry operations, handling international sales transactions and managing liner ship operations.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Prepare shipping plan
 | * 1. Products to be shipped are chosen from the inventory as per workplace policy
	2. Quantities to be shipped are described in the plan as per SOPs
	3. Products to be shipped are prepared as per ***product description***
	4. Products to be shipped are labelled as per SOPs
	5. Shipping plan is prepared as per SOPs
 |
| 1. Execute shipping business contract
 | * 1. Vessel space is booked as per SOPs
	2. Space availability in the vessel is confirmed as per SOPs
	3. Shipping documents are prepared as per SOPs
	4. Calling forward of cargo is performed as per SOPs
	5. Cargo delivery is carried out as per SOPs
	6. Contract requirements and specifications are reviewed as per SOPs
	7. Contract is executed in line with contract requirements
 |
| 1. Control shipping budget
 | * 1. Shipping operations are identified as per SOPs and job requirements
	2. Budget requirements are established based on shipping operations
	3. Resources are allocated based on budget requirements
	4. Budget proposal is prepared as per SOPs
	5. Budget proposal is implemented upon approval in line with workplace policy
	6. Budget implementation is monitored and evaluated as per SOPs
 |
| 1. Manage shipping documents
 | * 1. ***Shipping documents*** are prepared as per SOPs
	2. Screening of shipping documents is conducted as per SOPs
	3. ***Miscellaneous forms*** are prepared as per SOPs
	4. Shipping documents are stored and maintained as per SOPs
 |
| 1. Perform cargo connection
 | * 1. Cargo is received and/or accepted from shippers as per SOPs
	2. Through-transport cargo is connected by carrier as per the shipping contract
	3. Cargo is released to consignees as per SOPs
 |
| 1. Handle cargo claims
 | * 1. Cargo claims are received as per SOPs
	2. Cargo survey is conducted as per SOPs
	3. Cargo claim is processed as per SOPs
 |
| 1. Manage operations resources
 | * 1. ***Resource*** inventory is developed according to organisation’s policy
	2. Resource plan is prepared in line with organisation policy
	3. Resources are allocated as per the resource plan
	4. Resources are utilised as per resource plan
	5. Resource utilisation is monitored as per organisation policy
	6. Resource plan is reviewed as per SOPs
	7. Resource maintenance is carried out as per SOPs
 |
| 1. Perform ship husbandry operations
 | * 1. ***Ship clearance*** is obtained as per SOPs
	2. ***Port facilities and services*** are booked as per SOPs
	3. ***Ship and crew needs*** are obtained as per SOPs
 |
| 1. Handle international sales transactions
 | * 1. Sales contract is signed as per sales agreement
	2. Cargo is shipped in line with the sales contract
	3. Cargo is delivered as per the sales contract
 |
| 1. Manage liner ship operations
 | * 1. Vessel is scheduled as per ship demand
	2. Ship operating schedule is communicated to ship agents
	3. Maintenance of the vessel schedule is carried out as per SOPs
	4. ***Shipping cooperation*** is arranged as per the service provision
	5. ***Ship management services*** are procured as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Product description include but not limited to:
 | * Fragile
* Liquids
* Volatile
* Flammable
* Textiles
* Sharp
 |
| 1. Shipping documents include but not limited to:
 | * Proforma invoice
* Commercial invoice
* Packing list
* Certificates of origin
* Shipper’s letter of instruction
* Bills of lading
* Dangerous goods declaration forms
 |
| 1. Miscellaneous forms include but not limited to:
 | * Sales contract
* Letter of credit
* Bank draft
 |
| 1. Resource include but not limited to:
 | * Handling equipment
* Ship/vessel
* Transport vehicles
* Freight container
* Human resource
* Terminal Operating Systems
 |
| 1. Ship clearance include but not limited to:
 | * Inward clearance
* Outward clearance
* Port health clearance
* Port Authority clearance
 |
| 1. Port facilities and services include but not limited to:
 | * Pilotage
* Tuggage/towage
* Mooring
* Anchorage
* Berths
* Buoys
 |
| 1. Ship and crew needs include but not limited to:
 | * Ship chandling
* Crew clearance
* Medical attention
* Bunkering
* Ship maintenance
* Cash on board
* Garbage collection
* Master’s cash
 |
| 1. Shipping cooperation include but not limited to:
 | * Consortiums
* Alliances
* Joint ventures
* Vessel Sharing Agreement (VSA)
 |
| 1. Ship management services include but not limited to:
 | * Crewing
* Insurance
* Repair and maintenance
* Ship stores
* Ship operation
* Accounting and procurement
* Bunkering
* Registration and certification
 |

**REQUIRED KNOWLEDGE**

* shipping operations
* Shipping laws and regulations
* Shipping documents

Budget proposal development

* Shipping contracts
* International sales
* Incoterms
* Commercial shipping geography
* Merchant ship
* Containerisation
* International trade
* Law of carriage of goods by sea

**SKILLS**

* Planning
* Organization
* Coordination
* Critical thinking
* Problem solving
* Decision making
* Budgeting
* Analytical
* ICT
* Communication

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Prepared shipping plan
2. Demonstrated ability to execute shipping business contract
3. Demonstrated ability to control shipping budget
4. Demonstrated ability to manage shipping documents
5. Performed cargo connection
6. Handled cargo claims
7. Demonstrated ability to manage operations resources
8. Demonstrated ability to perform ship husbandry operations
9. Demonstrated ability to handle international sales transactions
10. Demonstrated ability to manage liner ship operations
 |
| 1. Resource Implications
 | The following resources should be provided:1. Simulated workplace environment
2. Computers
3. Stationery
4. Computer software
5. Sample documents relevant to management of shipping business
6. Maritime Atlas
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. Competency may be assessed on the job,
2. Off the job or a combination of these.
3. Off the job assessment must be undertaken in a closely simulated workplace environment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# CARRY OUT SHIPBROKING AND CHARTERING

**UNIT CODE:** LOG/OS/MTL/CR/06/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to carry out shipbroking and chartering. It involves chartering a ship, estimating cost of ship voyage, carrying out dry cargo and tanker chartering and preparing time sheets.

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Charter a ship
 | * 1. Shipbrokers are engaged as per SOPs
	2. Chartering offers are initiated via shipbrokers
	3. Negotiations are carried out as per SOPs
	4. ***Charter party*** and ***voyage instructions*** are established as per SOPs
	5. Available ships are inspected as per SOPs
 |
| 1. Estimate cost of ship voyage
 | * 1. ***Ship costs*** to be incurred during the voyage are identified
	2. Cost of ship voyage is calculated as per SOPs
 |
| 1. Carry out dry cargo chartering
 | * 1. Shipbrokers are engaged as per SOPs
	2. Chartering offers are initiated via shipbrokers
	3. Negotiations are carried out as per SOPs
	4. Charter party and voyage instructions are established as per SOPs
	5. Available ships are inspected as per SOPs
	6. Conflict resolution is carried out as per SOPs
 |
| 1. Carry out tanker chartering
 | * 1. Shipbroker is engaged as per SOPs
	2. Chartering offers are initiated via shipbroker
	3. Freight is fixed as per World Scale 100
	4. Charter party and voyage instructions are established as per SOPs
	5. Available ships are inspected as per SOPs
	6. Conflict resolution is carried out as per SOPs
 |
| 1. Prepare time sheet
 | * 1. Notice Of Readiness (NOR) is tendered and accepted as per the charter party contract
	2. Lay time is commenced as per charter party contract
	3. Statement of facts is prepared on a daily basis as per SOPs
	4. Time sheet is compiled as per SOPs
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Charter party include but not limited to:
 | * Date of commencement
* Port of loading
* Port of discharge
* Lay can date
* Cargo to be carried
* Insurance details
* Lay time agreement
 |
| 1. Voyage instructions include but not limited to:
 | * Port of loading
* Cargo tonnage
* Cargo characteristics
* Notice of Readiness details (NOR)
* Lay time
* Port of discharge
* Bunkering instructions
 |
| 1. Ship costs include but not limited to:
 | * Port dues
* Bunkers
* Fuel costs
* Port agents’ fees
* Stevedoring charges
* Pilotage, tug and berthing charges
* Regulating authorities fees
 |

**REQUIRED KNOWLEDGE**

* Legal principles in shipping
* Dry cargo chartering
* Ship operations and management
* Tanker chartering
* Shipping laws
* Port agency
* Marine insurance
* Shipping finance
* Conflict resolution
* Charter party

**SKILLS**

* Negotiation
* Critical thinking
* Analytical
* Digital literacy
* Cost estimation

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Demonstrated ability to charter a ship
2. Estimated cost of ship voyage
3. Demonstrated ability to carry out dry and tanker chartering
4. Prepared time sheet
 |
| 1. Resource Implications
 | The following resources should be provided:1. Simulated workplace environment
2. Computers
3. Stationery
4. Computer software
5. Sample documents
6. Maritime atlas
7. World Scale 100
8. PPE
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. Competency may be assessed on the job,
2. Off the job or a combination of these.
3. Off the job assessment must be undertaken in a closely simulated workplace environment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PERFORM MULTI-MODAL TRANSPORT OPERATIONS

**UNIT CODE:** LOG/OS/MTL/CR/07/6/A

**UNIT DESCRIPTION**

This unit of competency describes performing multi-modal transport operations. It involves marketing multi-modal transport logistics service, performing international cargo distribution, processing multi-modal transport documents, managing multi modal transport resources, managing mulit-modal transport inventory, determining processes in multi-modal transport and handling multi-modal transport cargo claims

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Market multi-modal transport logistics service
 | * 1. Marketing needs are identified as per organisational needs
	2. Target market is identified based on the marketing needs
	3. Logistics marketing goals are established in line with marketing needs
	4. Marketing plan/strategy is developed as per SOPs
	5. ***Marketing tools*** are established based on target market and marketing needs
 |
| 1. Perform international cargo distribution
 | * 1. Shipping instructions are received
	2. Cargo shipment is booked and delivered as per SOPs
	3. Shipment is weighed as per SOPs
	4. Freight is computed as per SOPs
	5. Cargo is shipped on board as per SOPs
	6. Shipping documents are processed as per SOPs
	7. Cargo is delivered/distributed as per shipping documents
 |
| 1. Process multi modal transport documents
 | * 1. ***Shipping documents*** relevant to the cargo shipment are identified based on the cargo to be shipped
	2. Shipping documents are processed as per SOPs
	3. Shipping documents are stored and maintained as per SOPs
 |
| 1. Manage multi modal transport resources
 | * 1. Multi modal transport resources are identified as per SOPs
	2. Multi modal transport resources management strategy is developed in line with identified resources
	3. Multi modal transport resources management tools are developed based on workplace policies
	4. Multi modal transport resources are managed as per management strategy
 |
| 1. Manage multi modal transport inventory
 | * 1. Inventory is classified according to cargo type and nature
	2. Inventory management strategy is developed as per SOPs
	3. Inventory management strategy is implemented as per SOPs
	4. Inventory management strategy implementation is monitored and evaluated in line with workplace procedures
 |
| 1. Determine prices in multi modal transport
 | * 1. Cargo transportation method is determined based on the nature of the cargo, form of cargo, weight or volume of cargo and distance to delivery point/location
	2. Freight charges set by preferred carrier are determined as per SOPs
	3. Handling and clearing costs at points of loading and discharge are determined based on container size
	4. Service and insurance charges are processed as per SOPs
	5. Freight costs are computed as per SOPs
 |
| 1. Handle multi-modal transport cargo claims
 | * 1. Cargo claims are received as per SOPs
	2. Cargo survey is conducted as per SOPs
	3. Cargo claim is processed as per multi-modal transport contract
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Marketing tools include but not limited to:
 | * Web marketing
* E-mail marketing
 |
| 1. Shipping documents include but not limited to:
 | * Proforma invoice
* Commercial invoice
* Packing list
* Certificates of origin
* Shipper’s letter of instruction
* Bills of lading
* Dangerous goods forms
 |

**REQUIRED KNOWLEDGE**

* Multi modal transport rules
* Quality standards for services
* Commercial Shipping Geography
* Public safety and security
* Sales and marketing
* Telecommunication
* Fleet management
* Distribution channels
* Distribution documents
* Staff supervision
* Types of goods
* Prospecting for customers
* Risk assessment and management
* Cargo claims

**SKILLS**

* Negotiation
* Social perceptiveness
* Time management
* Coordination
* Problem solving
* Critical thinking
* Organization
* Risk management and assessment

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Demonstrated ability to market multi-modal transport logistics service
2. Demonstrated ability to perform international shipping distribution
3. Demonstrated ability to process multi-modal transport documents
4. Demonstrated ability to manage multi-modal transport resources
5. Demonstrated ability to manage multi-modal transport inventory
6. Determined prices in multi-modal transport
7. Demonstrated ability to handle multi-modal transport cargo claims
 |
| 1. Resource Implications
 | The following resources should be provided:1. Simulated workplace environment
2. Computers
3. Stationery
4. Computer software
5. Maritime atlas
6. Sample documents
7. PPE
8. Tariffs
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. Competency may be assessed on the job,
2. Off the job or a combination of these.
3. Off the job assessment must be undertaken in a closely simulated workplace environment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# PERFORM CLEARING AND FORWARDING OPERATIONS

**UNIT CODE:** LOG/OS/MTL/CR/08/6/A

**UNIT DESCRIPTION**

This unit describes competencies required to perform clearing and forwarding operations. It involves performing ship clearance operations, performing cargo clearance, performing warehousing operations, performing cargo cosolidation/deconsolidation operations and arranging for cargo haulage

**ELEMENTS AND PERFORMANCE CRITERIA**

| **ELEMENT**  | **PERFORMANCE CRITERIA*****(Bold and italicized terms are elaborated in the Range)*** |
| --- | --- |
| 1. Perform ship clearance operations
 | * 1. Requirements for declaration of vessel arrival are identified as per SOPs
	2. Vessel ***arrival declaration documents*** are submitted as per SOPs
	3. Vessel arrival records are created and maintained as per SOPs
 |
| 1. Perform cargo clearance operations
 | * 1. Pre-clearance documentation is prepared as per SOPs
	2. Clearance documents are collected as per SOPs
	3. Online declaration is carried out as per SOPs
	4. Cargo is cleared as per SOPs
 |
| 1. Perform warehousing operations
 | * 1. Stored goods layout is maintained as per SOPs
	2. Records of stored goods are maintained as per SOPs
	3. Quality of stored goods is maintained as per SOPs
	4. Stored goods are secured in line with warehouse security protocols
	5. Warehouse plant and equipment are managed as per SOPs
	6. Distribution of stored goods is carried out as per SOPs
 |
| 1. Perform cargo consolidation/deconsolidation operations
 | * 1. Need for freight consolidation/deconsolidation is identified based on shipping consignments
	2. Freight consolidation/deconsolidation program is developed as per SOPs
	3. Freight consolidation/deconsolidation program is implemented as per organisation policy
 |
| 1. Arrange for cargo haulage
 | * 1. ***Haulage*** contract is awarded as per the status of the cargo
	2. Ideal haulage equipment is allocated as per SOPs
	3. Cargo is loaded on ideal haulage equipment as per SOPs
	4. Cargo delivery is effected as per the contract
 |

**Range**

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Arrival declaration documents include but not limited to:
 | * Port clearance of last port of call
* Certificate of Insurance
* Facilitation of Maritime Traffic (FAL Convention) forms declaration
 |
| 1. Haulage include but not limited to:
 | * Merchant
* Carrier
 |

**REQUIRED KNOWLEDGE**

* Customer and personal service
* Transportation
* Maritime Geography
* Clerical knowledge
* Administration and management
* Mathematics
* Public safety and security
* Laws and legal codes
* Economics and accounting
* Computers
* Personnel and human resources
* Telecommunications
* TradeX System 2005
* Kentrade
* Documentation
* Warehousing

**SKILLS**

* Monitoring
* Coordination
* Service orientation
* Writing
* Communication
* Time management
* Critical thinking
* Complex problem solving
* Analytical
* Negotiation
* Persuasive
* Decision making
* Management
* Digital literacy
* Driving

**EVIDENCE GUIDE**

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills, knowledge and range.

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency
 | Assessment requires evidence that the candidate1. Demonstrated ability to perform ship clearance
2. Performed cargo clearance operations
3. Demonstrated ability to perform warehousing operations
4. Demonstrated ability to perform cargo consolidation/deconsolidation operations
5. Demonstrated ability to arrange for cargo haulage
 |
| 1. Resource Implications
 | The following resources should be provided:1. Simulated workplace environment
2. Computers
3. Stationery
4. Computer software
5. Sample documents
6. Maritime atlas
 |
| 1. Methods of Assessment
 | Competency may be assessed through:1. Written text
2. Interview
3. Observation
 |
| 1. Context of Assessment
 | 1. Competency may be assessed on the job,
2. Off the job or a combination of these.
3. Off the job assessment must be undertaken in a closely simulated workplace environment.
 |
| 1. Guidance information for assessment
 | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |