

**REPUBLIC OF KENYA**

**NATIONAL OCCUPATIONAL STANDARDS**

**FOR**

**FISHERIES TECHNOLOGY (DRY DOCK OPERATIONS- FISHING VESSELS)**

**LEVEL 3**



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 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 and this resulted to the formulation of the Policy Framework for Reforming Education and Training. A key feature of this policy is the radical change in the design and delivery of TVET training. This policy document requires that training in TVET be competency based, curriculum development be industry led, certification be based on demonstration of competence and mode of delivery allows 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 have been developed.

It is my conviction that these occupational standards will play a great role towards development of competent human resource for the Agriculture Sector’s growth and 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 14 of 2016 on Reforming Education and Training in Kenya, emphasized the need to reform curriculum development, assessment and certification. This called for a shift to CBET to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labor force.

TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) in conjunction with Agriculture Sector Skills Advisory Committee (SSAC) have developed these occupational standards.

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, Fisheries technology SSAC, expert workers and all those who participated in the development of this occupational standards.

**CHAIRPERSON,**

**TVET CDACC**

# ACKNOWLEDGMENT

These occupational standards have been designed for competency-based training and has independent competencies of learning that allow the trainee flexibility in entry and exit. In developing the occupational standards, significant involvement and support was received from various organizations.

I recognize with appreciation the role of the Fisheries technology Sector Skills Advisory Committee (SSAC) in ensuring that competencies required by the industry are addressed in the standards. I also thank all stakeholders in the Fisheries technology sector for their valuable input and all those who participated in the process of developing these occupational standards.

I am convinced that these occupational standards will go a long way in ensuring that workers in Agriculture Sector acquire competencies that will enable them to perform their work more efficiently.

CHAIRPERSON,

AGRICULTURE SECTOR SKILLS ADVISORY COMMITTEE

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# **ACRONYMS AND ABBREVIATIONS**

BC Basic Competency

CDACC Curriculum Development Assessment and Certification Council

CU Curriculum

CC Core Competency

CO Common Units

KCSE Kenya Certificate of Secondary Education

KNQA Kenya National Qualifications Authority

OSHA Occupation Safety and Health Act

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

TVET Technical and Vocational Education and Training

# KEY TO UNIT CODE

 **AGR / OS/FIS/ BC/01/ 3/A**

Industry or sector

Occupational Standards

Occupational area

Type of competency

Competency number

Competence level

Control Version

# OVERVIEW

The **Fisheries Technology Level Three Qualification** consists of competencies that a person must achieve perform breath hold diving operations, use standard measuring devices and instruments, prevent and fight fire and perform first aid treatment on board

**Units of Learning**

This course consists of basic, core competencies as indicated below:

**BASIC COMPETENCIES**

|  |  |
| --- | --- |
| **Unit Code** | **Unit Title** |
| AGR/OS/FISDO/BC/01/4/A | Demonstrate Communication Skills |
| AGR/OS/FIS/BCDOV/02/4/A | Demonstrate Numeracy Skills |
| AGR/OS/FISDO/BC/03/4/A | Demonstrate Entrepreneurial Skills |
| AGR/OS/FISDO/BC/04/4/A | Demonstrate Employability Skills |
| AGR/OS/FISDO/BC/05/4/A | Demonstrate Environmental Literacy |
| AGR/OS/FISDO/BC/06/4/A | Demonstrate Occupational Safety and Health Practices |
| AGR/OS/FISDO/BC/07/4/A | Digital literacy |

**COMMON COMPETENCY**

|  |  |
| --- | --- |
| **Unit Code** | **Unit Title** |
| AGR/OS/FISDO/CC/02/3/A | Standard Measuring Devices And Instruments |
| AGR/OS/FISDO/CC/03/3/A | Fire Prevention And Fighting  |
| AGR/OS/FISDO/CC/05/3/A | First aid treatment on board |

**CORE COMPETENCY**

|  |  |
| --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** |
| AGR/OS/FISDO/CR/01/4/A | Perform breath hold diving operations |
| AGR/OS/FISDO/CR/02/4/A | Use standard measuring devices and instruments |
| AGR/OS/FISDO/CR/03/4/A | Prevent and fight fire |
| AGR/OS/FISDO/CR/04/4/A | Perform first aid treatment on board |

# BASIC UNITS OF COMPETENCY

**DEMONSTRATE COMMUNICATION SKILLS**

**UNIT CODE: AGR/OS/FISDO/BC/01/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate communication skills. It involves obtaining and conveying workplace information, speaking English at a basic operational level, participating in workplace meetings and discussions, and completing relevant work-related documents.

**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. Obtain and convey workplace information
 | 1. Specific and relevant information is accessed from ***appropriate sources*** based on standard procedures
2. Effective questioning, active listening and speaking skills are used to gather and convey information based on communication needs
3. Appropriate ***medium*** is used to transfer information and ideas in accordance with workplace guidelines
4. Appropriate non- verbal communication is used as per the communication needs
5. Appropriate lines of communicationwith supervisors and colleagues are identified and followed based on workplace requirements
6. Location and storage of information is undertaken according to workplace procedures
7. Personal interaction is carried out clearly and concisely according to workplace requirements
 |
| 1. Speak English at a basic operational level
 | * 1. Participation in simple conversations with work colleagues is undertaken based on familiar topics
	2. Simple verbal instructions and requests are responded to according to workplace guidelines
	3. ***Routine procedures*** are provided in accordance with workplace policy
	4. Likes, dislikes and preferences are expressed based on individual preference
	5. Different forms of expression in English are identified in line with workplace requirements
 |
| 1. Participate in workplace meetings and discussions
 | * 1. Team meetings are attended on time according to schedules
	2. Own opinions are clearly expressed and those of others are listened to in accordance with workplace guidelines
	3. Meeting inputs are provided based on the meeting purpose and established ***protocols***
	4. ***Workplace interactions*** are conducted as per organizations’ code of conduct
	5. Work-related questions are asked and responded based on set protocols
	6. Meetings outcomes are interpreted and implemented as per organizations’ objectives
 |
| 1. Complete relevant work-related documents
 | * 1. Range of forms relating to conditions of employment are completed according to workplace procedures
	2. Workplace data is recorded based on workplace requirements
	3. Errors in recording information are identified and acted upon in accordance with workplace policies
	4. Reporting requirements are completed according to organizational guidelines
 |

**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. Appropriate Sources may include but not limited to:
 | * Various department heads,
* organization documents
 |
| 1. Medium may include but not limited to:
 | * Method of communication
* Physical media
* Mechanical media
 |
| 1. Routine procedures may include but not limited to:
 | * Day to day activities
 |
| 1. Protocols may include but not limited to:
 | * Procedures for doing a task
 |
| 1. Workplace interactions may include but not limited to:
 | * Official inter relations
 |

**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
* Active Listening
* Communication
* writing
* Interpretation
* Basic Information Technology (IT)

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Minutes writing
* Report writing

**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. Prepared written communication following standard format of the organization
2. Accessed information using communication equipment
3. Spoken English at a basic operational level
4. Made use of relevant terms as an aid to transfer information effectively
5. Conveyed information effectively adopting the formal or informal communication
 |
| 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
3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Direct Observation
	2. Interview
	3. Written test
 |
| 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: AGR/OS/FISDOV/BC/02/3/A**

**UNIT DESCRIPTION:**

This unit covers the competencies required to demonstrate numeracy skills. It involves using whole numbers and money up to one hundred thousand for work, Locating, comparing and using highly familiar measurement for work, using highly familiar maps and diagrams for work, identifying and using some common 2D shapes for work and locating specific information in highly familiar tables, graphs and charts for work

**Elements and Performance Criteria**

| **Element** | **Performance Criteria** |
| --- | --- |
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Use whole numbers for work
 | 1. Whole numbers and money amount up to 100,000 in highly familiar workplace documents and tasks are named and read according to workplace procedures.
2. Understanding of place value and the role of zero is demonstrate according to standard operating procedures.
3. Halves are recognised and understood in workplace as per Standard operating procedures.
4. Whole numbers and money amounting up to 100,000 are organised in size order and are compared as per workplace procedures.
5. Counting is done in numbers as per standard operating procedures.
6. Addition and subtraction of whole numbers and money up to 100,000 done in accordance with workplace requirement
7. Links between operations of addition and subtraction are clearly described as per job requirement.
8. Reasonableness of outcome with prompting and support is checked as per work requirement.
9. Numerical information is recorded, and the result of the task is communicated using informal language and symbolism as per workplace procedures.
 |
| 1. Locate, compare and use highly familiar measurement for work
 | 1. Measurements in highly familiar workplace documents and tasks are located as per standard operating procedures
2. Different units of measurements and their uses are identified in accordance with job specifications
3. The comparative relationship between the units of measurement identified as per standard operating procedures.
4. Understanding of conversion of amounts is demonstrated in accordance with requirements.
5. Informal language is used to compare measurements as per workplace procedures.
6. Digital time is well read and am and pm used in reference to time
7. Calendar used appropriately to record information in accordance with organizational events.
8. Basic measurement information is well read and recorded as per the manuals
9. Additions and subtraction of simple quantities done in workplace as per SOPs.
 |
| 1. Use highly familiar maps and diagrams for work
 | 1. Familiar items or places are in highly familiar maps and diagrams in accordance with SOPs
2. Simple symbols and pictorial representations are identified in accordance with familiar maps and diagrams
3. Simple oral directions are given to locate objects as per SOPs
4. Simple oral directions followed to locate objects as per job specifications
5. Understanding of informal directional language is demonstrated as per work procedures.
 |
| 1. Identify and use some common 2D shapes for work
 | 1. ***Common two-dimensional* shapes** are identified and named as per SOPs
2. Common objects are described in terms of size and shape as per SOPs
3. Common, every day, informal language is used to compare objects in accordance SOPs
4. Common objects are grouped based on shape, size, colour and features as per job requirements
 |
| 1. Locate specific Information in highly familiar tables, graphs and charts for work
 | 1. Features of simple tables identified as per work place procedures
2. Specific numerical information located in highly familiar tables using grid movement (up and down columns and across rows) and key as graph and chart manuals
3. Numerical information and data in highly familiar tables compared using appropriate informal language as per workplace procedures.
4. Information related to relevant workplace tasks as per workplace procedures
5. Features of simple graphs and charts identified as per SOPs
6. Specific numerical information located in highly familiar graphs and charts as per workplace procedures.
7. Numerical information and data compared using appropriate informal language as per SOPs.
 |

**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. Common two -dimensional shapes: may include but not limited to:
 | * 1. Round/circle
	2. Square
	3. Rectangular
	4. 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. Measured objects or materials as per job requirements
	2. Used calculator to perform the four fundamental operations
	3. Performed calculations involving money up to one hundred thousand
	4. Performed conversions between hours, minutes and seconds
	5. Calculated area and volume of regular shapes
	6. Created tables and graphs to represent and interpret information
 |
| 1. Resource Implications for competence assessment
 | 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
3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written Test
	2. Interview
	3. Oral Questioning
	4. Demonstration
 |
| 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: AGR/OS/FISDOV/BC/03/3/A**

**UNIT DESCRIPTION**

This unit covers the competencies required to demonstrate digital literacy in a working environment. It entails identifying computer software and hardware, applying security measures to data, hardware, software, applying computer software in solving tasks and applying internet and email in communication at workplace.

**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 computer software and hardware
 | * 1. ***Computer software*** are identified according to manufacturer’s specification
	2. ***Appropriate computer hardware*** is identified according to manufacturer’s specification
 |
| 1. Apply security measures to data, hardware, software
 | * 1. ***Data security and privacy are classified*** in accordance with the technological situation
	2. ***Security and control measures*** are applied in accordance with laws governing protection of ICT
	3. Computer threats and crimes are detected in accordance with information management guidelines.
	4. Protection against computer crimes is undertaken in accordance with laws governing protection of ICT
 |
| 1. Apply computer software in solving tasks
 | * 1. Basic ***word processing concepts*** are applied in resolving workplace tasks as per job requirement.
	2. ***Word processing utilities*** are applied in accordance with workplace procedures
	3. Data is manipulated on worksheet in accordance with office procedures
 |
| 1. Apply internet and email in communication at workplace
 | * 1. Electronic mail is applied in workplace communication in accordance with office procedures
	2. Office internet functions are defined and executed in accordance with office procedures
	3. ***Network configuration*** and uses are determined in accordance with office operations 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. Computer software may include but not limited to:
 | * Operating system
* MS office
* Web browser

Media players  |
| 1. Computer hardware may include but not limited to:
 | * Computer Case
* Monitor
* Keyboard
* Mouse
* Hard Disk Drive
* Motherboard
* Video Card
 |
| 1. Data security and privacy may include but not limited to:
 | * Confidentiality
* Cloud computing
* Confidentiality
* Cyber terrorism
* Integrity -but-curious data serving
 |
| 1. Security and control measures may include but not limited to:
 | * Countermeasures and risk reduction
* Cyber threat issues
* Risk management
 |
| 1. Word processing concepts may include but not limited to:
 | 1. Create
2. Edit
3. Print
4. Documents
 |

**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 skills
* Basic ICT skills

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Input and output devices
* Central processing Unit (CPU)
* Peripherals
* Storage Media
* Software concept
* Types of concept
* Function of computer software
* Data security and privacy
* Security threats and control measures
* 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 sheet;
* Meaning, formulae, function and charts, uses, layout, data manipulation and application to cell
* Networking and Internet;
* Meaning, functions and uses of networking and internet.
* Electronic mail and world wide web
* Emerging trends and issues in ICT;
* Identify and apply 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 input, output, CPU and storage media devices of computers in accordance to computer specification
	2. Identified concepts, types and functions of computer software according to operation manual
	3. Identified and controlled security threats
	4. Detected and protected computer crimes
	5. Applied word processing in office tasks
	6. Prepared work sheet and applied data to the cells in accordance to workplace procedures
	7. Used Electronic Mail for office communication as per workplace procedure
	8. Applied internet and World Wide Web for office tasks in accordance with office procedures
	9. Applied laws governing protection of ICT
 |
| 1. Resource Implications for competence assessment
 | 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
3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written Test
	2. Observation
	3. Practical assignment
	4. Interview
	5. Oral Questioning
 |
| 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 : AGR/OS/FISDOV/BC/04/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate Entrepreneurial skills. It involves developing entrepreneurial culture, identifying entrepreneurial opportunities, starting, operating and growing a small business.

**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. Develop entrepreneurial culture
 | 1. ***Entrepreneurship terminologies*** are defined following established procedures.
2. Contribution of entrepreneurship towards national development is identified in accordance to national development goals
3. Self-employment benefit are identified and emphasized to help create a positive attitude
4. Cultural factors that promote or inhibit entrepreneurial development areidentified and emphasis made on entrepreneurial promotion
5. Ways of managing factors that inhibit development of entrepreneurial culture are identified in accordance withcultural background and national social economic situation
 |
| 1. Identify entrepreneurial opportunities
 | 1. Myths associated with entrepreneurship, types of entrepreneurs and characteristics of entrepreneurship are determined in accordance with the set procedures
2. Identification of ***sources of business ideas,*** generation of business ideas is undertaken in accordance with the existing procedure
3. Evaluation of business opportunities is undertaken according to prevailing office procedures
4. Competencies are matched with business opportunities in accordance with business practices.
 |
| 1. Start a small business
 | Factors to consider when starting a small business are identified according to business sector. 1. ***Forms of business ownership*** are identified and procedure of starting a small business stipulated according to relevant legal requirements
2. Procedure of starting a small business is identified as per the legal requirements
3. Challenges faced when starting a small business are identified and mitigating factors provided for in accordance prevailing legal and regulatory requirement
4. Resource requirement for a small business are specified according to nature of business
5. Business life cycle is projected as per the nature of business and national social economic situation
 |
| 1. Operate a small business
 | 1. Relevant terms are defined in accordance with the set rules
2. Small business record is maintained in accordance with office procedures
3. Business support services are set up in accordance with the nature and size of business
4. Marketing activities are effected according to the nature and size of business
5. Small enterprise business plan is prepared depending on the size and nature of business and the client specification
6. Small business resources are run for efficiency and profitability
7. Small business records are kept for decision making purposes
8. Word processing concepts are applied in the management of small business according to office procedures
9. Basic computer application software and emerging trends and concerns are applied in small business management in accordance with office procedures
 |
| 1. Grow a small business
 | 1. Methods of growing/expanding a small business are identified and implemented in accordance with growth schedule
2. Resources for growing small business are identified and implementing
3. Small business growth plans are prepared according to growth schedule
4. ICT and small business growth schedule is prepared in accordance with office procedures
5. Use of computers and technology is incorporated in small scale business growth schedule in accordance with technological trends
6. Social media is used for business growth and profitability
7. Emerging issues and trends are considered in accordance with business growth schedule and activities
8. Community interest is built in product/service according to growth plan
9. Business communication is enhanced according to business communication planand profitability
10. Basic business growth strategies are identified and implemented for increased profitability
11. Word processing concepts are applied in growing of small business according to office procedures
12. Basic computer application software, programming and emerging trends and concerns are applied in small business growth in accordance with office procedures for growth and profitability
 |

**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. Entrepreneurship terminologies include but not limited to:
 | * Intrapreneurship
* Enterprise
* Business vision. Mission, core values, objectives
 |
| 1. Sources of business ideas may include but not limited to:
 |

|  |
| --- |
| * Brainstorming
* Personal hobbies
* Newspapers, magazines,
* Friends and relatives
* Accounting/Administrative work
* Modern trends and concerns
 |

 |
| 1. Forms of business ownership may include but not limited to:
 | * Sole proprietorship
* Partnership
* Limited Company
* Unlimited Company
 |

**REQUIRED SKILLS AND KNOWLEDGE**

**Required Skills**

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

The individual needs to demonstrate the following skills:

* Marketing skills
* Advertising
* Basic book-keeping
* accounting skills
* Communication skills

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Public relations concepts
* Basic product promotion strategies
* Basic market and feasibility studies
* Basic business ethics
* Building customer relations
* Business models and strategies
* Types and categories of businesses
* Business internal controls
* Relevant national and local legislation and regulations
* Basic quality control and assurance concepts
* Building relations with customer and employees
* Building competitive advantage of the enterprise

**EVIDENCE GUIDE**

This section describes the required skills which supports performance. These skills will need to be considered in the learning and assessment process.

|  |  |  |
| --- | --- | --- |
| 1. Critical aspects of Competency
 | Assessment requires evidence that the candidate:

|  |
| --- |
| 1. Demonstrated basic entrepreneurial skills
2. Demonstrated ability to conceptualize and plan a micro/small enterprise
3. Demonstrated ability to manage/operate a micro/small-scale business
4. Demonstrated basic marketing skills
 |

 |
| 1. Resource Implications for assessment
 | 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
3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through:

|  |  |
| --- | --- |
| 3.1 Written tests3.2 Oral Questioning 3.3 Observation3.4 Third Party Report |  |

 |
| 1. Context of Assessment
 |

|  |
| --- |
| Competency may be assessed:4.1 On the job4.2 Off the job4.3 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: AGR/OS/FISDOV/BC/05/3/A**

**UNIT DESCRIPTON**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating critical safe work habits, demonstrating workplace learning and workplace ethics.

**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 objectives
9. Self-strengths and weaknesses are identified based on personal objectives
 |
| 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. 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 workplace ethics
 | 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.

|  |  |
| --- | --- |
| **Range** | **Variable** |
| 1. Drug and substance abuse may include but not limited to:
 | Commonly abused1. Alcohol
2. Tobacco
3. Miraa
4. Over-the-counter drugs
5. Cocaine
6. Bhang
7. Glue
 |
| 1. Feedback may include but not limited to:
 | 1. Verbal
2. Written
3. Informal
4. Formal
 |
| 1. Team may include but not limited to:
 | 1. Small work group
2. Staff in a section/department
3. Inter-agency group
 |
| 1. Innovation may include but not limited to:
 | 1. New ideas
2. Original ideas
3. Different ideas
4. Methods/procedures
5. Processes
6. New tools
 |
| 1. Emerging issues may include but not limited to:
 | 1. Terrorism
2. Social media
3. National cohesion
4. Open offices
 |

**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:

1. Communication
2. Critical thinking
3. Observation
4. Organizing
5. Record keeping
6. Problem solving
7. Decision Making
8. Resource utilization

**Required Knowledge**

The individual needs to demonstrate knowledge of:

1. Work values and ethics
2. Company policies
3. Company operations, procedures and standards
4. Occupational Health and safety procedures
5. Fundamental rights at work
6. Personal hygiene practices
7. Workplace communication
8. Concept of time
9. Time management
10. Decision making
11. Types of resources
12. Work planning
13. Organizing work
14. Record keeping
15. Workplace problems and how to deal with them
16. Assertiveness
17. Team work
18. HIV and AIDS
19. Drug and substance abuse
20. Safe work habits
21. Professional growth and development
22. Technology in the workplace
23. Innovation
24. Emerging issues
	* Social media
	* Terrorism
	* National cohesion

**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 critical safe work habits
	3. Demonstrated workplace learning
	4. Demonstrated workplace ethics
 |
| 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. Oral questioning
2. Portfolio of evidence
3. Third Party Reports
4. Written tests
 |
| 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 : AGR/OS/FISDOV/BC/06/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate environmental literacy. It involves controlling environmental hazard, controlling environmental pollution and demonstrating sustainable resource use.

**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 and handling methods for environmentally hazardous materials are strictly followed according to environmental regulations and OSHS.
2. Disposal methods of hazardous wastes are followed at all times according to environmental regulations and OSHS.
3. ***PPE*** is used according to OSHS.
 |
| 1. Control environmental Pollution
 | * 1. ***Environmental pollution******control measures*** are complied with following standard protocol.
	2. Procedures for solid waste management are observed according Environmental Management and Coordination Act 1999
	3. Methods for minimizing noise pollution complied following environmental regulations.
 |
| 1. Demonstrate sustainable use of resource
 | * 1. Methods for minimizing wastage are complied with.
	2. ***Waste management procedures*** are employed following principles of 3Rs (Reduce, Reuse, Recycle)
	3. Methods for economizing or reducing ***resource*** consumption are practiced.
 |

**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. Environmental pollution control measures may include but not limited to:
 | * 1. Methods for minimizing or stopping spread and ingestion of airborne particles
	2. Methods for minimizing or stopping spread and ingestion of gases and fumes
	3. Methods for minimizing or stopping spread and ingestion of liquid wastes
 |
| 1. Waste management procedures may include but not limited to:
 | 1. Sorting
2. Storing of items
3. Recycling of items
4. Disposal of items
 |
| 1. Resources may include but not limited to:
 | * 1. Electric
	2. Water
	3. Fuel
	4. Telecommunications
	5. Supplies
1. Materials
 |
| 1. Workplace environmental hazards may include but not limited to:
 | 1. Biological hazards
2. Chemical and dust hazards
3. Physical hazards
 |

**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
* Observation
* Writing
* Analytical

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Storage methods of environmentally hazardous materials
* Disposal methods of hazardous wastes
* Usage of PPE Environmental regulations
* OSHS
* Types of pollution
* Environmental pollution control measures
* Different solid wastes
* Solid waste management
* Different noise pollution
* Methods of minimizing noise pollution
* Solid Waste Act
* Methods of minimizing wastage
* Waste management procedures
* Economizing of resource consumption
* Principle of 3Rs

**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:1.1 Controlled environmental hazard 1.2 Controlled environmental pollution 1.3 Demonstrated sustainable resource use |
| 1. Resource Implications for assessment
 | The following resources should be provided:* 1. Workplace with storage facilities
	2. Tools, materials and equipment relevant to the tasks (ex. Cleaning tools, cleaning materials, trash bags, etc.)
	3. PPE
	4. Manuals and references
 |
| 1. Methods of Assessment
 | Competency in this unit may be assessed through:3.1 Observation3.2 Oral questioning3.3 Written examination |
| 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: AGR/OS/FISDOV/BC/07/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to practice and promote safety and health at work. This entails preparing to practice safety and health at work and complying and promoting compliance of workers to organization’s occupational safety and health instructions and requirements

**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. Prepare to practice safety and health at work
 | 1.1 Awareness of legislation that outlines the minimum standards for occupational safety and health requirements/ regulations are emphasized1.2 Benefits of implementing an occupational safety and health program are identified1.3 ***Safety requirements/ regulations*** of own work and of other workers are familiarized1.4 Workplace standards and procedures ***for incidents and Emergencies*** are determined1.5 ***Prevention and control measures***, including use of ***safety gears/PPE*** (Personal Protective Equipment) to avoid accident, injuries and sickness are identified |
| 1. Comply and promote compliance of workers to organization’s occupational safety and health instructions and requirements
 | 2.1 Safety instructions and safety signs are followed and disseminated to co-workers2.2 Safe handling of tools, equipment and materials is learned and shared with co-workers2.3 Execution of own work and of co-workers is monitored in according to safe work procedures 2.4 Use of safe guards and safety devices is monitored2.5 Hazards, incidents, injuries and sickness in the workplace are reported properly following standards and 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. ***Safety requirements / regulations*** may include but are not limited to:
 | * Building code
* Permit to Operate
* Occupational Safety and Health Standards
 |
| 1. ***Incidents and emergencies*** may include but are not limited to:
 | * Chemical spills
* Equipment/vehicle accidents
* Explosion
* Fire
* Gas leak
* Injury to personnel
* Structural collapse
* Toxic and/or flammable vapors emission.
 |
| 1. ***Prevention and control measures*** may include but are not limited to:
 | * Eliminate the hazard
* Isolate the hazard
* Substitute the hazard with a safer alternative
* Use administrative controls to reduce the risk
* Use engineering controls to reduce the risk
* Use personal protective equipment
* Safety, Health and Work Environment Evaluation
* Periodic and/or special medical examinations of workers
 |
| 1. ***Safety devices/ PPEs*** (personal protective equipment) May include but are 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
 |

**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
* Observation
* Reporting
* Organizing

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Elements of an effective occupational safety and health program
* Benefits of implementing an occupational safety and health program
* Safety requirements of own work and of other workers
* Standard emergency plan and procedures in the workplace
* Different OSH control measures
* General OSH principles
* Work standards and procedures
* Safe handling procedures of tools, equipment’s and materials
* Standard emergency plan and procedures in the workplace
* Different OSH control measures
* Standard accident and illness reporting procedures in the workplace
* Monitoring system on compliance to work safety and health

**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. Arranged work area and items in accordance with workplace procedures requirements
2. Followed work standards and procedures based on instructions
3. Applied ***Prevention and control measures*** based on instructions
4. Undertook orientations on ***OSH requirements and regulations*** in line with policy.
5. Provided feedback on occupational health and safety as per workplace instructions.
6. Adhered to workplace procedures for reporting hazards, incidents, injuries and sickness to as per workplace policy.
7. Identified and proposed ***OSH-related training needs*** as per workplace policy.
 |
| 1. Resource Implications for assessment
 | 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. Oral questioning
2. Portfolio of evidence
3. Third Party Reports
4. Written tests
 |
| 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. |

# COMMON UNITS OF COMPETENCY

# USE STANDARD MEASURING DEVICES AND INSTRUMENTS

**UNIT CODE: AGR/OS/FISDOV/CC/01/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to use standard measuring devices and

Instruments. It involves identifying standard measuring devices and instruments, reviewing the procedures in using standard measuring devices and instruments and following procedures of using measuring devices and instruments.

**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 Standard Measuring Devices and Instruments
 | 1. ***Standard measuring devices*** and instruments are identified according to manufacturer’s specifications
2. Devices and instruments for measuring are properly checked, sanitized and calibrated prior to use
 |
| 1. Review the Procedures in Using Standard Measuring Devices and Instruments
 | 1. Procedures in using the ***standard measuring devices and instruments*** are recalled according to manufacturer’s specifications
2. Printed procedures/brochures/catalogues are consulted according to specified ***food processing methods***
 |
| 1. Follow Procedures of Using Measuring Devices and Instruments
 | * 1. Methods/practices of using measuring devices and instruments are strictly observed according to manufacturer’s specifications and workplace requirements
	2. Measuring devices and instruments are cleaned, wiped dry and stored after use to ensure conformity with workplace 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.

|  |  |
| --- | --- |
| Variables | Range |
| Standard Measuring Devices may include but not limited to : | * Weighing scales and balances of various capacities and sensitivities
* Measuring cups of varying capacities for dry ingredients
* Measuring cups of varying capacities for liquid ingredients
 |
| Standard Measuring Instruments may include but not limited to : | * Salinometer
* Thermometers of varying temperature range ( 0-300 C)
* Refractometer of varying range ( 0 – 90 B)
* Glassware like cylinders, beakers, flasks) of varying graduations
 |
| Food Processing Methodsmay include but notlimited to : | * Salting, Curing and Smoking
* Fermentation and Pickling
* Canning and Bottling
* Sugar Concentration
* Drying and Dehydration
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Calibrating skills
* Sanitary handling of devices and instruments
* Measuring devices and instruments
* Storing measuring devices and instruments

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Safe handling of measuring devices and instruments
* Specifications and functions of measuring devices and instruments and breakages of measuring devices and instruments
* Procedures in cleaning, sanitizing and calibrating and storing equipment and instruments

**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 Standard Measuring Devices and Instruments
2. Reviewed the Procedures in Using Standard Measuring Devices and Instruments
3. Followed Procedures of Using Measuring Devices and Instruments
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:* 1. Access to relevant workplace where assessment can take place
	2. Appropriately simulated environment where assessment can take place
	3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:* On-the-job
* Off-the–job
* During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# PREVENT AND FIGHT FIRE

**UNIT CODE: AGR/OS/FISDOV/CC/02/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to prevent and fight fire. It involves managing fire prevention procedures, operating portable firefighting equipment, conducting interior search and rescue and fire-fighting operations.

**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. Manage fire prevention procedures
 | 1. Fire hazards on board a vessel are identified and action is taken to eliminate or minimize them
2. ***Fire detection and firefighting equipment*** and systems are regularly checked and appropriate action is taken to ensure that they are operational
3. Appropriate educational activities are organized to ensure onboard personnel are aware of the dangers of fire, how to prevent it and what to do if a fire is detected
4. Personnel on board a vessel are made aware of emergency procedures to be followed in the event of fire
 |
| 1. Operate portable firefighting equipment
 | 1. ***Classes of fires*** are correctly identified in accordance with accepted fire-fighting practice
2. Correct portable fire-fighting equipment is selected and used to fight specific classes of fires
3. ***Methods of extinguishing fire*** on board a vessel are correctly applied
4. Correct techniques are used to recharge the various types of portable fire extinguisher
5. Where applicable, portable fire-fighting equipment is confirmed as operational following recharging
 |
| 1. Conduct interior search and rescue and fire-fighting operations
 | * 1. Procedures for donning and starting up SCBA / CABA are correctly applied
	2. Procedures for the logging of SCBA / CABA operations on a BA Control Board is correctly followed in accordance with vessel’s procedures and accepted fire-fighting practice
	3. Search and rescue operations in a smoke filled environment are correctly conducted as a member of a fire-fighting team in accordance with accepted fire-fighting practice
	4. Interior fires are extinguished using appropriate firefighting equipment and procedures as a member of a firefighting team in accordance with accepted fire-fighting practice
	5. Lifeline signals are correctly used during interior firefighting operations
	6. A compartment filled with high expansion foam is correctly entered as per accepted fire-fighting practice
 |

**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.

|  |  |
| --- | --- |
| Variables | Range |
| 1. Classes of Fire may include but not limite to:
 | * **Class A**
* Class B
* Class C
* Class D
* Class F
* Electrical
 |
| 1. Fire detection and firefighting equipment and system may include but not limite to:
 | * Portable fire extinguisher including foam, water, CO2, dry chemical and wet foam
* Fire blankets
* C02 fixed system
* Foam installation including semi-portable and fixed system
* Sprinkler system
* Fire pumps (main and emergency fire pump
* Fire hoses, hydrants, branches and international shore connection
 |
| 1. Methods of extinguishing fire may include but not limite to:
 | * Cooling
* Reducing the ignition temperature
* Smothering
* Limiting the oxygen available
* Starving
* Limiting the fuel supply
* Chemical Reaction
* By interrupting the chain of combustion and combining the hydrogen atoms with chlorine atoms in the hydrocarbon chain
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Procedures in checking and replacing consumable materials in typical ship board fire detection, fire-fighting and safety equipment and system
* Procedures in identifying and evaluating operational and maintenance problems with fire-detection, firefighting, lifesaving and safety equipment and systems and determining appropriate courses of action
* Procedures in identifying and implementing improvements to maintenance for fire-detection and fire-fighting.
* Procedures on on-board housekeeping processes.

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Chemistry of fire and its relationship to materials typically carried on vessels
* Types of fire detection, firefighting, lifesaving and safety equipment and systems used on board vessels and the procedures for their use
* Relevant regulations, code of practice, policies and procedures related to the maintenance of fire detection, firefighting, lifesaving and safety equipment and system
* Faults that can occur with shipboard fire detection, firefighting, lifesaving and safety equipment and appropriate remedial action and solutions
* Statutory and typical company requirements for the documentation of maintenance procedures and outcomes for fire detection, firefighting, lifesaving and safety equipment and systems used on board vessels

**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. Managed and implemented fire prevention measures and procedures on board a vessel
2. Assessed the operational capability of fire detection and firefighting equipment and systems and initiate any required maintenance or replenishment action
3. Participated in simulated on board firefighting activities
4. Participated in search and rescue and firefighting teams
5. Implemented OHS principles and policies when carrying out firefighting duties
6. Communicated effectively with others as required during fire emergencies
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:* 1. Access to relevant workplace where assessment can take place
	2. Appropriately simulated environment where assessment can take place
	3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:* On-the-job
* Off-the–job
* During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# PERFORM FIRST AID TREATMENT ON BOARD

**UNIT CODE: AGR/OS/FISDOV/CC/03/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to perform first aid treatment on board. It involves performing immediate lifesaving first aid pending the arrival of medical assistance, recognizing the symptoms and acute illness and or injury and take appropriate action, managing wounds and bleeding, managing burns, managing bone, joint and muscle injuries and adapt first aid procedures for remote situations.

**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. Perform immediate lifesaving first aid pending the arrival of medical assistance
 | 1. The priorities of ***First Aid Care*** are correctly applied in real or simulated first aid situation
2. The DRABC Action plan is correctly used to identify and control danger, loss of consciousness, loss of airway, breathing and circulation
3. An unconscious casualty is correctly placed in stable side position and the steps in clearing the airways to promote breathing in accordance with established first aid procedures
4. The correct method of Expired Air Resuscitation (EAR), External Cardiac Compression (ECC) and Cardio Pulmonary Resuscitation (CPR) is applied in real life resuscitation situation or in a simulated exercise using a mannequin
 |
| 1. Recognize the

symptoms and acute illness and or injury and take appropriate action | 1. The ***conditions requiring special first*** aid procedures are correctly identified
2. A real or simulated unconscious casualty is cared for in accordance with established first aid procedures
3. Causes of respiratory failure and breathing difficulty are correctly identified and appropriate care is provided for a real or simulated casualty with obstructed breathing
4. The symptoms and signs of casualty with angina pain, heart attack and heart failure are correctly identified
5. The symptoms and signs of poisoning, bites and stings are correctly identified and appropriate immediate management of the conditions is provided in real or simulated situation
6. A real or simulated conscious casualty with an acute illness and or injury is cared for in accordance with established first aid procedures
 |
| 1. Manage wounds and bleeding
 | 1. Severe external bleeding is correctly controlled in a real or simulated situation
2. The symptoms and signs of severe internal bleeding are correctly identified and appropriate immediate management of these conditions is provided in a real or simulated situation
3. A real or simulated laceration, abrasion and a deep puncture wound is correctly manage in accordance with established first aid procedures
4. The signs of wound infections are correctly identified and a real or simulated wound infection is correctly managed in accordance with established procedures
 |
| 1. Manage burns
 | 1. Immediate rescue procedures are correctly used in real or simulated first aid situations involving a burned casualty
2. The severity of burn is correctly assessed in terms of depth, position and size in accordance with established procedures
3. The correct method of treatment for burns and associated shock is correctly applied in real or simulated first aid situations involving a burned casualty
 |
| 1. Manage bone, joint and muscle injuries
 | 1. Symptoms and signs of fractures (simple and complicated) are correctly recognized in accordance with established first aid procedures
2. Problems and treatment associated with dislocated joints are correctly managed in accordance with established procedures
3. First aid treatment of pelvic and chest injuries and fractures of limbs, including immobilization techniques is correctly performed in accordance with established procedures
4. The symptoms and signs of sprains and strains are correctly identified in accordance with established procedure
 |
| 1. Adapt First Aid Procedures for Remote Situations
 | 1. Risk in Emergency ***situations*** is correctly assessed in accordance to first aid procedures
2. ***First aid resources*** are correctly mobilized in accordance with established procedures
3. Operating procedures during emergencies are correctly followed in accordance to first aid 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.

|  |  |
| --- | --- |
| Variables | RangeMay Include but not limited to: |
| 1. First aid Care on

Board a vessel mayNeed to be providedIn situation involving May Include but not limited to: | * Acute illness or injury
* Laceration, abrasion and a deep puncture wounds
* Respiratory failure and breathing difficulty
* Shock as a result of severe injury
* Abdominal, pelvic and chest injuries
* Fractures of limbs
* Poisoning, bites and stings
* Sprains, strains and dislocations
* Facial, ear and eye injuries
* Suspected head, neck and back injuries
 |
| 1. Conditions requiring special first aid procedures May Include but not limited to:
 | * Explosion injuries
* Burns
* Poisons and envenomation
* Hypothermia and hyperthermia
 |
| 1. First aid resources and equipment includeMay Include but not limited to:
 | * Vessels/ medicine cabinet
* First aid boxes
* Emergency first aid carry bags
* Specific first aid resources
* Roller bandages
* Triangular bandages
* Face masks
* Cleaning swabs
* Cleaning brush
* Cleaning materials
* Medicines
* Vessel’s Medicine Cabinet
* First Aid Boxes
* Emergency first aid carry bags
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Medical first aid procedures
* Procedures for conducting an initial patient first aid treatment
* Managing injuries and medical emergencies
* Managing medicine resources
* Techniques for care of wounds
* Correct methods of Expired Air Resuscitation (EAR), External
* Cardiac Compression (ECC) and Cardio Pulmonary
* Resuscitation (CPR)

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Duties and responsibilities of the designated first aid officer on board a vessel
* Knowledge on ways in which disease can spread on board a vessel and ways of preventing the spread
* Legal issues related to administration of drugs and medicines on board a vessel
* Knowledge of body structures and functions relevant to possible injury, illnesses and disease that may be encountered on board a vessel
* Maritime communication techniques related to health care and receiving radio medical advice form shore based advisers
* Marine publications containing information on first aid and medical treatment on board a vessel

**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. Recognized the symptoms and signs of acute illness and or injury and take appropriate action
2. Performed immediate lifesaving first aid
3. Managed wounds and bleeding
4. Managed burns
5. Managed bone, joints and muscle injuries
6. Adapted first aid procedures for remote situation
7. Communicated effectively with others during provision of first aid.
8. Prepared report on first aid situations and activities in accordance with company and regulatory requirements
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:1. Access to relevant workplace where assessment can take place
2. Appropriately simulated environment where assessment can take place
3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:1. On-the-job
2. Off-the–job
3. During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# CORE UNITS OF COMPETENCY

# MANAGE SMALL FISHING VESSELS

**UNIT CODE: AGR/OS/FISDOV/CR/01/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage small fishing vessels. It involves operating marine vessels, monitoring condition and seaworthiness of a vessel, performing routine maintenance tasks on small marine vessels, troubleshooting and maintaining low powered marine engines and applying weather information when navigating a Vessel.

**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. Operate marine vessels
 | * 1. Gathered ***tools, equipment*** and ***materials*** based on task requirement
	2. ***PPEs*** identified and gathered based on task requirements
	3. Safety measures adhered to in relation to marine vessels
	4. Engine oil levels in the outboard engine determined based on the distances to be covered and extent of task requirement
	5. Marine vessel is navigated and piloted through water body
	6. The rules of the ***navigatio***n paths are maintained based on the water and atmospheric conditions and traffic density
	7. ***Safe speed*** is maintained based on ***factors*** determined by marine and atmospheric conditions
	8. ***Boat handling*** skills demonstrated in safely bringing the vessel back to the landing beach
	9. Applicable forces acting on the boat are identified based on marine and atmospheric conditions
 |
| 1. Monitor condition and seaworthiness of a vessel
 | * 1. Hull conditions are inspected for any visible damage and leakages
	2. Vessel ***appliances*** are inspected for functionality and working conditions
	3. The crew members are assessed for competence on use of facilities in the vessel
	4. Working conditions in the vessel is assessed based on task performed by the crew
 |
| 1. Perform routine maintenance tasks on a small marine vessels
 | * 1. Hull surface regularly cleaned using appropriate detergent and cleaning agents
	2. Dry docking is undertaken to inspect the vessel condition
	3. Vessels dried in the sun to allow for maintenance to commence
	4. Repair and replacement of worn out part undertaken based on extent of damage
	5. Lubrication of moving parts of the vessel and accessories undertaken based on manufacturers specifications
	6. Painting of the hull and some accessories is done based on clients’ preferences and requirements for marine conditions
 |
| 1. Troubleshoot and maintain low powered marine engines
 | * 1. Engine is physically observed for any physical damages on the surface
	2. Engine is started and observations made based on performance indicators
	3. Spark plugs removed, cleaned and inspected for signs of quality deterioration
	4. Defective plugs are replaced based on manufacturers specifications
	5. Gear case oil levels are checked based on specified levels
	6. Engine is cleaned and refinished and painted using marine enamel based on the prevailing marine conditions
	7. Battery is checked for full charge terminals cleaned
	8. Propeller is checked for correct pitch based on manufacturer’s specifications
	9. Worn out propeller blades are replaced as per manufacturer’s specifications
	10. Grease fittings are lubricated based on manufacturer’s recommended lubricants.
	11. The engine is test run on test tank for functionality before installation on a boat.
 |
| 1. Apply weather information when navigating a Vessel
 | * 1. Obtain and decipher weather and oceanographic information
	2. Apply weather and oceanographic data to safe navigation
	3. Maintain records of weather and oceanographic information and forecasts.
 |

**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.

|  |  |
| --- | --- |
| Variables | RangeMay Includes but not limited to: |
| 1. PPEs May Includes but not limited to:
 | * Navigation equipment
* Safety boots
* Dust and fume masks
* Rinsing and storing equipment
 |
| 1. Safety equipment and spares: May Includes but not limited to:
 | * Communications equipment
* Bailing or bilge pumping arrangements
* Fire extinguishers 3.4 personal floatation devices
* Alternative sources of propulsion and steering
* Anchoring devices
* Bilge removal systems
* Distress signaling devices: including flares, flags, signaling mirrors, other methods
* Water
* Tools and spare parts
* Torch and batteries
 |
| 1. Safety Measures May Includes but not limited to:
 | * Distribution and securing procedures
* Passengers
* Catch
* Cargo:
	+ Fishing gear
	+ Diving equipment
	+ Oyster farm equipment
	+ Aquaculture nets and gear
* Stock feed
* Monitoring equipment.
 |
| 1. Safe Speed May Includes but not limited to:
 | * Distance from supervision
* Distance from safe haven
* Operational limits (municipal or city waters)
* Speed limits
* Sectors
* Proximity to dangers
* Range of fuel tank
 |
| 1. Navigation May Includes but not limited to:
 | * Using propulsion motor
* Using outboard motor
* Using oars
* Using sails
* Alternative steering
 |
| 1. Boat handling skills May Includes but not limited to:
 | * Maneuvering in confined areas or heavy seas
* Towing
* Approaching a beach or landing
* Recovering person overboard
* Search and Rescue (SAR)
 |
| 1. Routine maintenance May Includes but not limited to:
 | * By controlling corrosion
* By controlling hull fractures and fatigue
* By controlling hull damage
* Cleanliness
 |
| 1. Seaworthiness of a vessel May Includes but not limited to:
 | * By day or night in both normal and emergency situations
* Under any possible conditions of sea, weather and loading
* While underway
* During berthing and unberthing operations
* While anchoring or mooring
* During dead on water (drifting)
* At all times when the vessel is at operational status
 |
| 1. Action taken to monitor the condition and seaworthiness of a vessel May Includes but not limited to:
 | * Routine inspections
* Checks prior to departure
* Checks on completion of a voyage
* Checks on completion of maintenance activities
* Checks in anticipation of a
* Change in sea and weather conditions
* Use of testing equipment to check watertight integrity
* Checks during an emergency which may have caused damage or changes to the seaworthiness of the vessel
 |
| 1. Documentation May Includes but not limited to:
 | * Procedures for monitoring of the condition and seaworthiness of vessel
* Vessel and equipment manufacturer’s instructions, specifications and recommended procedures
* Maintenance schedules and records
* Instructions of Kenya maritime authorities related to the seaworthiness of vessels
* Vessel’s license to operate
 |

**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:

* Vessel navigation skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Adjusting gear components to improve performance
* Icing
* Numeracy skills
* Reading operating instructions for electronic detection
* Equipment.

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Post mortem changes in fish
* Fish harvesting methods
* Fish preservation methods
* Fish movement behavior,
* Water current movement patterns

**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 PPEs are as per task requirements.
2. Tools, equipment and materials are gathered as per task requirements
3. Maneuvered a small vessel while engaged in common tasks
4. Performed basic deck maintenance
5. Carried out cleaning activities
6. Selected and applied appropriate paint systems for areas aboard a vessel
7. Checked and performed basic maintenance on deck fittings, equipment and systems
8. Exercised all required safety, environmental and hazard control precautions and procedures during planned maintenance operations
9. Communicated effectively with others when carrying out maintenance procedures onboard a vessel
 |
| 1. Resource implications
 | The following resources must be provided:* 1. Access to relevant workplace where assessment can take place
	2. Appropriately simulated environment where assessment can take place
	3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:1. On-the-job
2. Off-the–job
3. During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# MANAGE OUTBOARD MOTORS

**UNIT CODE: AGR/OS/FISDOV/CR/02/3/A**

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage outboard motors. It involves operating outboard motors, maintaining outboard motors, repair basic outboard motor faults.

**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. Operate outboard

motors | 1. ***Pre-start checks*** are performed on the motor as per manufacturer’s guidelines.
2. Outboard motors are ***starte***d and stopped according to the engine manufacturer’s instructions.
3. Outboard motor ***controls*** are used to maneuver according to the engine manufacturer’s instructions.
4. Outboard motor cooling systems are ***checked*** according to manufacturer’s recommendations.
5. Trim and tilt mechanisms are operated according to manufacturer’s instructions.
 |
| 1. Maintain outboard

motors | 1. Fuel filters are changed and ***fuel quality*** is maintained according to manufacturer’s instructions.
2. Electrical systems are maintained to ensure reliable electrical supply to the outboard motor.
3. Water is flushed from the internal and external parts of the outboard motor as per manufactures guidelines
4. Engine and gearbox oil is checked, changed and lubricated according to manufacturer’s instructions.
5. Engine mounting gear is secured and checked as per manufactures guidelines
 |
| 1. Repair

basic outboardmotor faults | * 1. Fuel-related difficulties are identified and rectified according to trouble shooting guides and manufacturer’s instructions.
	2. Electrical faults are identified and rectified according to trouble shooting guides and manufacturer’s instructions.
	3. Outboard engines that were immersed are serviced according to manufacturer's instructions.
	4. Outboard ***motor propulsion*** faults are identified and rectified according to manufacturer’s instructions.
 |

**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.

|  |  |
| --- | --- |
| Variables | RangeMay Includes but not limited to: |
| 1. Pre-start checks May Includes but not limited to:
 | * Amount of fuel in the fuel tank
* Appropriate fuel
* Water depth
* Cooling water intake submerged
* Motor attachment points
* Fuel hose connected, full and free of constrictions
* Fuel tank depressurized.
 |
| 1. Started May Includes but not limited to:
 | * Pull start
* Electric start
 |
| 1. Controls May Includes but not limited to:
 | * Remote throttle and gear levers
	+ Tiller
	+ Steering wheel
* Tilt and trim mechanisms
 |
| 1. Checked May Includes but not limited to:
 | * Cooling water circulation indicator
	+ Temperature gauge
* Temperature warning sound
 |
| 1. Fuel quality May Includes but not limited to:
 | * By estimating fuel consumption at turning points
* Contamination
	+ Fuel to oil ratio
	+ Filter type and quality.
 |
| 1. Propulsion faults May Includes but not limited to:
 | * Bent or broken propeller
* Broken shear pin or drive spline
* Fouling Pitch.
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* checking, operating and maintaining an outboard motor that is
* used to propel a small vessel
* Literacy skills used for:
* Reading trouble shooting charts
* Reading manufacturers’ instruction manuals.
* Numeracy skills used for:
* Calculating fuel to oil ratios or using tables to find and add
* Correct volume of lubricating oil
* Estimating fuel consumption and time at turning points

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Relevant Marina regulations and related memorandums
* Outboard motor fuel systems
* Outboard motor cooling systems
* Outboard motor lubrication systems
* Battery connection
* Trouble shooting
* International Convention for the Prevention of Pollution from Ships (MARPOL) 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. Operated and maintained outboard motors and be able to
2. Diagnose and rectify basic faults when in isolated situations
3. Started and stopped an outboard motor
4. Operated all controls on an outboard motor to propel a dinghy ahead and astern
5. Performed basic maintenance on an outboard motor
6. Stored an outboard motors
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:* 1. Access to relevant workplace where assessment can take place
	2. Appropriately simulated environment where assessment can take place
	3. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:1. On-the-job
2. Off-the–job
3. During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# MANAGE FISHING GEAR

**UNIT CODE:** AGR/OS/FISDOV/CR/03/3/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage fishing gear. It involves designing fishing gear, constructing fishing gear, operating fishing gear and maintaining fishing gear.

**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. Design fishing gear
 | * 1. Type of fishing gear is determined based on the type of target catch.
	2. Fish behavior is determined as per the fish species and size.
	3. Depth of the water determined as per the fishing area.
	4. ***Measurements of the fishing gear*** determined as per the method of fishing
	5. Mesh size determined based on the size of the target fish.
 |
| 1. Construct fishing gear
 | * 1. ***Material for fishing gear*** is determined based on the type of fishing gear, place and target species.
	2. Material for fishing gear assembled based on the based on the selected material
	3. Fishing gear is made as per the design
	4. The fishing gear is tested as per SOPs
 |
| 1. Operate fishing gear
 | * 1. The fishing area is surveyed and determined as per the fishing method
	2. Fishing gear Set up as per the SOPs
	3. Fishing gear monitored based on fish population and duration of the catch
	4. Fishing gear is hauled based on the catch.
	5. Fish is harvested from the fishing gear SOPs
	6. The catch is landed and sorted based on size and species
 |
| 1. Maintain fishing gear
 | 1. The fishing gear is cleaned and dried as per the SOPs
2. The condition of the fishing gear is assessed based on SOPs
3. Materials and tools for repair are assembled based on the type of gear and nature of repair.
4. Fishing gear repair is carried out as per the SOPs.
5. Fishing gear is stored as per the SOPs
 |

**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.

|  |  |
| --- | --- |
| Variables | Range |
| 1. Measurements of the fishing gear May Includes but not limited to:
 | * Ply
* Diameter
* TEX, RTEX
* Material type:
	+ PE
	+ PA
* Monofilament
* Braided
* Twisted
* Mesh size for mending purposes
* Mesh size for fisheries regulation purposes
 |
| 1. Material for fishing gear May Includes but not limited to:
 | * Gill netting:
* Monofilament
* Multi-monofilament
* Purse seine netting
* Knotted and knotless netting
* Braided twine
* Twisted twine
* Polyethylene (PE)
* Polyamide (nylon) (PA)
* Strengthening ropes
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Repairing or replacing all worn gear components, excluding damage to netting material
* Assembling and dismantling connecting devices
* Ensuring gear is deployed untwisted
* Using machinery to deploy and retrieve fishing gear
* Stowing fishing gear
* Sorting catch
* Reading sizes of connecting gear.
* Measuring length or diameter.

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Factors that make components effective or defective
* Order in which gear components are connected and disconnected
* Basic operating principle of the fishing gear
* Principles that contribute to
* Personal, seafood and vessel hygiene
* Environmental and resource protection
* Workplace safety
* Vessel stability

**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. Designed fishing gear
2. Constructed fishing gear
3. Operated fishing gear
4. Maintained fishing gear
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:2.1 Access to relevant workplace where assessment can take place* 1. Appropriately simulated environment where assessment can take place
	2. Materials relevant to the proposed activity or tasks
 |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:* On-the-job
* Off-the–job
* During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |

# MANAGE FISH AGGREGATING DEVICES (FADs)

**UNIT CODE:** AGR/OS/FISDOV/CR/04/3/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage fish aggregating devices it involves designing Fish aggregating devices , setting up Fish aggregating devices and maintaining Fish aggregating devices.

**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. Design Fish aggregating devices
 | 1. Type of ***FAD*** is determined based on the target species
2. Site selection
3. Model of the FAD is determined as per the habitat of the target species.
4. Materials, tools and equipment identified and gathered as per the model of the FAD
5. The FAD is assembled as per the model.
 |
| 1. Set up Fish aggregating devices
 | 1. Means of transport identified based on weight of the FAD and distance to the site
2. Substrate is determined as per the anchoring needs
3. The number and distance between FADs is determined as per the scale
4. The FAD is fixed as per the substrate and wave direction
 |
| 1. Maintain Fish aggregating devices
 | 1. FADs are monitored as per the purpose
2. FADs are repaired as per the physical condition
3. FADs are treated as per the level of colonization by harmful organisms.
 |

**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.

|  |  |
| --- | --- |
| Variables | Range |
| 1. FAD May Includes but not limited to:
 | * Fish aggregating devices
 |

**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:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Meaning of fish aggregating devices(FADs), target species
* Types of FADs
* Site selection
* Models of the FADs
* Materials, tools and equipment for construction of FADs
* Construction procedures for FADs
* Impacts of FADs
* Guidelines on setting up FADs
* Transportation of FADs
* Types of substrates
* Factors to consider when setting up FADs
* Procedures for fixing FADs

**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. Designed Fish aggregating devices
2. Set up Fish aggregating devices
3. Maintained Fish aggregating devices
 |
| 1. Resource implications for competence certification
 | The following resources must be provided:2.1 Access to relevant workplace where assessment can take place2.2 Appropriately simulated environment where assessment can take place 2.3 Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment
 | Competency may be assessed through:* 1. Written tests
	2. Third party reports
	3. Oral questioning
	4. Interview
	5. Observation
 |
| 1. Context of Assessment
 | Assessment could be conducted:* On-the-job
* Off-the–job
* During industrial attachment
 |
| 1. Guidance information for assessment
 | Holistic assessment with related units in the sector |