****

**REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

 **FOR**

**FISHERIES TECHNOLOGY (DRY DOCK OPERATIONS)**

**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 (Sessional Paper No. 4 of 2016). 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 this curriculum has been developed.

It is my conviction that this curriculum 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. 4 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 this curriculum.

This curriculum has been developed following the CBET framework policy; the CBETA standards and guidelines provided by the TVET Authority and the Kenya National Qualification Framework designed by the Kenya National Qualification Authority.

This curriculum is designed and organized with an outline of learning outcomes; suggested delivery methods, training/learning resources and methods of assessing the trainee’s achievement. The curriculum is competency-based and allows multiple entry and exit to the course.

I am grateful to the Council Members, Council Secretariat, Agriculture SSAC, expert workers and all those who participated in the development of this curriculum.

**CHAIRPERSON,**

**TVET CDACC**

# ACKNOWLEDGMENT

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

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

I am convinced that this curriculum will go a long way in ensuring that workers in Fisheries Technology Sector acquire competencies that will enable them to perform their work more efficiently.

**COUNCIL SECRETARY/CEO**

**TVET CDACC**

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ACRONYMS AND ABBREVIATIONS

CDACC Curriculum Development Assessment and Certification Council

CU Curriculum

CC Common Competency

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

SOP Standard operating procedures



# COURSE OVERVIEW

**Description of the Course**

The Fisheries technology level Three qualification consists of competencies that a person must achieve to use standard measuring devices and instruments, prevent and fight fire, perform first aid treatment on board, manage sea vessels, manage fishing gear and manage fish aggregating devices within the institution’s/organizations acceptable Standard Operating Procedures (SOPs).

**Units of Learning**

This course consists of basic, common and core units of learning as indicated below:

**Basic Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| AGR/CU/FISDO/BC/01/3/A | Communication skills | 15  | 1.5 |
| AGR/CU/FISDO/BC/02/3/A | Occupational safety and health practices | 15  | 1.5 |
| AGR/CU/FISDO/BC/03/3/A | Numeracy skills | 20  | 2 |
| AGR/CU/FISDO/BC/04/3/A | Digital literacy | 40  | 4 |
| AGR/CU/FISDO/BC/05/3/A | Entrepreneurial skills | 20  | 2 |
| AGR/CU/FISDO/BC/06/3/A | Employability skills | 15  | 1.5 |
| AGR/CU/FISDO/BC/07/3/A | Environmental literacy | 15  | 1.5 |
| **Total**  |  | 140 | 14 |

**Common units of learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| AGR/CU/FISDO/CC/02/3/A | Standard Measuring Devices And Instruments | **30** | **3** |
| AGR/CU/FISDO/CC/03/3/A | Fire Prevention And Fighting  | **30** | **3** |
| AGR/CU/FISDO/CC/05/3/A | First aid treatment on board | **50** | **5** |
| **Total**  |  | **110** | **11** |

**Core units of learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| **AGR/OS/FISDO/CR/01/3/A** | Small fishing vessels management | **50** | **5** |
| **AGR/OS/FISDO/CR/02/3/A** | Outboard motors management | **40** | **4** |
| **AGR/OS/FISDO/CR/03/3/A** | Fishing gear technology | **50** | **5** |
| **AGR/OS/FISDO/CR/05/3/A** | Fish aggregating devices | **40** | **4** |
|  | Industrial attachment | **150** | **15** |
| **Total**  |  | **330** | **33** |
| **Grand total**  |  | **580** | **58** |

**Entry Requirements**

An individual entering this course should have any of the following minimum requirements:

1. Kenya Certificate of Primary Education (KCPE)

 **Or**

1. Kenya Certificate of Secondary Education (KCSE) E

 **Or**

1. Equivalent qualifications as determined by Kenya National Qualifications Authority (KNQA)

**Trainer qualification**

**Assessment**

The course will be assessed at two levels: internally and externally. Internal assessment is continuous and is conducted by the trainer who is monitored by an accredited internal verifier while external assessment is the responsibility of TVET CDACC.

**Certification**

A candidate will be issued with a Record of Achievement for each Unit of Competency. To attain the qualification National certificate Level 3 Fisheries Technology (Dry Dock operations-Fishing Vessels), the candidate must demonstrate competence in all the units of competency as given in qualification pack. These certificates will be issued by TVET CDACC in

# BASIC UNITS OF LEARNING

**COMMUNICATION SKILLS**

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

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 15 hours

**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.

**Summary of Learning Outcomes**

1. Obtain and convey workplace information
2. Speak English at a basic operational level
3. Participate in workplace meetings and discussions
4. Complete relevant work-related documents

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Obtain and convey workplace information
 | * Communication process
* Modes of communication
* Medium of communication
* Effective communication
* Barriers to communication
* Flow of communication
* Sources of information
* Types of questions
* Organizational policies
* Workplace etiquette
* Ethical work practices in handling communication
 | * Written tests
* Oral questioning
 |
| 1. Speak English at a basic operational level
 | * English grammar
	+ Nouns, verbs, adjectives, adverbs, pronouns prepositions
* English speaking
	+ Pronunciation
	+ Simple conversations
* Taking verbal instructions
* Reading and writing in English
* Forms of expression in English
 | * Written tests
* Oral
* Role play
 |
| 1. Participate in workplace meetings and discussions
 | * Nature of workplace meetings
* Meeting protocols
* Workplace interactions
 | * Oral questioning
* Written tests
 |
| 1. Complete relevant work-related documents
 | * Types and purposes of workplace documents and forms
* Methods used in filling forms and documents
* Recording workplace data
* Process of distributing workplace forms and documents
* Report writing
* Types of workplace reports
 | * Written tests
* Oral questioning
 |

**Suggested Methods of Instruction**

* Discussion
* Role play
* Brainstorming
* Viewing of related videos
* Role play

**Recommended Resources**

* Desktop computers/laptops
* Projectors
* Report writing templates
* Pens
* Notebooks

**NUMERACY SKILLS**

**UNIT CODE:** AGR/CU/FISDO/BC/02/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

 **Duration of Unit:** 15 hours

**Unit Description**

This unit covers the competencies required to identify and undertake simple numerical processes. The person who is competent in this unit shall be able to use / work with whole numbers and money up to one hundred thousand; Locate, compare and use highly familiar measurement; Use highly familiar maps and diagrams; Identify and use some common 2D shapes; and locate specific Information in highly familiar tables, graphs and charts for work.

**Summary of Learning Outcomes**

1. Use whole numbers for work
2. Locate, compare and use highly familiar measurement for work
3. Use highly familiar maps and diagrams for work
4. Identify and use some common 2D shapes for work
5. Locate specific Information in highly familiar tables, graphs and charts for work

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Use whole numbers for work
 | * Whole numbers
* Use of Zeros
* Use of halves
* Sizes
* Grouping of numbers
* Addition and subtraction of whole numbers
* Numerical information,
* Symbols
 | * Written tests
* Assignments
* Supervised exercises
 |
| 1. Locate, compare and use highly familiar measurement for work
 | * Measurements
* Units of measurements and their use
* Digital time am and pm
* Calendars
 | * Written tests
* Assignments
* Supervised exercises
 |
| 1. Use highly familiar maps and diagrams for work
 | * + Use of Maps and
* Diagrams simple
* symbols and pictorial
	+ Giving simple oral directions to locate objects
 | * Oral
* Assignments
* Supervised exercises
 |
| 1. Identify and use some common 2D shapes for work
 | * + Two dimensional shapes
	+ Describe common objects in terms of size and shape
	+ Compare objects
	+ Group common objects based on shape, size, color and features
 | * Written tests
* Assignments
* Supervised exercises
 |
| 1. Locate specific Information in highly familiar tables, graphs and charts for work
 | * + Simple tables
	+ Features of simple graphs and charts
	+ Numerical information in tables, graphs & charts
 | * Oral
* Assignments
* Supervised exercises
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory.
* Practical demonstration of tasks by trainer
* Role play
* Discussion
* Demonstration by trainees and comments and corrections by trainers

**Recommended Resources**

* Common 2D shapes objects
* Calculator
* Basic measuring instruments
* Mathematical tables

**DIGITAL LITERACY**

**UNIT CODE:** AGR/CU/FISDO/BC/03/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 20 hours

**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.

**Summary of Learning Outcomes**

1. Identify computer hardware and software
2. Apply security measures to data, hardware and software
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify computer hardware and software
 | * Definition of a computer
* Functions of a computer
* Components of a computer
* Classification of computers
* Computer software
 | * Written tests
* Practice assignments
 |
| 1. Apply security measures to data, hardware and software
 | * Data security and control
* Security threats and control measures
* Types of computer crimes
* Detection and protection against computer crimes
 | * Written tests
* Oral presentation
 |
| 1. Apply computer software in solving tasks
 | * Operating systems
* Word processing
* Spread sheets
* Data base
 | * Oral questioning
* Practical
 |
| 1. Apply internet and email in communication at workplace
 | * Computer networks
* Uses of internet
* Electronic mail (e-mail) concept
 | * Oral questioning
* Oral presentation
* Written test
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* Assignments
* Viewing of related videos
* Group discussions

**Recommended Resources**

* Desk top computers
* Laptop computers
* Other digital devices
* Printers
* Storage devices
* Internet access
* Computer software

**ENTREPRENEURIAL SKILLS**

**UNIT CODE:** AGR/CU/FISDO/BC/04/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 40 hours

**Unit description**

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

**Summary of Learning Outcomes**

1. Develop entrepreneurial culture
2. Identify entrepreneurial opportunities
3. Start a small business
4. Operate a small business
5. Grow a small business

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Develop entrepreneurial culture
 | * Definition of entrepreneur
* Importance of entrepreneurship
* Common terminologies in entrepreneurship
* Entrepreneurship and employment creation
* Formal and informal employment
* Habits that promote entrepreneurial development
* Cultural factors that inhibit entrepreneurship
 | * Individual/group assignments
* Written tests
* Oral
 |
| 1. Identify entrepreneurial opportunities
 | * Types, characteristics, qualities & role of entrepreneurs
* SWOT analysis
* Generating Business ideas
* Business opportunities
* Evaluation of business opportunities
 | * Individual/group assignments
* Written tests
* Oral questioning
* Oral presentation
 |
| 1. Start a small business
 | * Factors to consider when starting a small business
* Legal requirement for starting a small business
* Procedure of starting a small business
* The dos and don’ts of starting a small business
* Challenges faced when starting a small business and mitigating factors
* Launch of a small business
 | * Oral questioning
* Individual/group assignments
* Written tests
 |
| 1. Operate a small business
 | * Organizational structure of a small business
* Managing small business finances
* Book keeping
* Business support services
* Marketing for small businesses
* Basic IT application in small business
 | * Individual/group assignments
* Written tests
 |
| 1. Grow a small business
 | * Methods of growing/expanding a small business
* Resources for growing small business
* Small business growth plan
* ICT and business growth
 | * Individual/group assignments
* Written tests
 |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* assignments
* Role play
* Case study

**Recommended Resources**

* Case studies for small businesses
* Business plan template
* Laptop/ desktop computer
* Internet
* Telephone
* Writing materials

**EMPLOYABILITY SKILLS**

**UNIT CODE:** AGR/CU/FISDO/BC/05/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 20 hours

**Unit Description**

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.

**Summary of Learning Outcomes**

1. Conduct self-management
2. Demonstrate critical safe work habits
3. Demonstrate workplace learning
4. Demonstrate workplace ethics

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Conduct self-management
 | * Self-awareness
* Formulating personal vision, mission and goals
* Strategies for overcoming life challenges
* Emotional intelligence
* Assertiveness
* Developing and maintaining high self-esteem
* Developing and maintaining positive self-image
* Accountability and responsibility
* Good work habits
* Self-awareness
* Financial literacy
* Healthy lifestyle practices
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate critical safe work habits
 | * Stress and stress management
* Punctuality and time consciousness
* Interpersonal communication
* Sharing information
* Resources utilization
* HIV and AIDS
* Drug and substance abuse
* Handling emerging issues
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate workplace learning
 | * Personal training needs identification and assessment
* Cultural aspects of work
* Application of learning
* Safe use of technology
* Identifying opportunities
* Workplace innovation
* Handling emerging issues
* Future trends and concerns in learning
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |
| 1. Demonstrate workplace ethics
 | * Meaning of ethics
* Ethical perspectives
* Values and beliefs
* Organization code of ethics
* Common ethical dilemmas
* Organization culture
* Corruption, bribery and conflict of interest
* Privacy and data protection
* Harassment and mutual respect
* Financial responsibility/accountability
* Etiquette
* Emerging issues in ethics
 | * Written tests
* Oral questioning
* Portfolio of evidence
* Third party report
 |

**Suggested Methods of Instruction**

* Simulation/Role play
* Group Discussion
* Presentations
* Q&A
* Case studies
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors

**ENVIRONMENTAL LITERACY**

**UNIT CODE**: AGR/CU/FISDO/BC/06/3/A

**Relationship to Occupational Standards**:

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 15 hours

**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.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental Pollution
3. Demonstrate sustainable resource use

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** |  **Content** | **Suggested Assessment Methods** |
| 1. Control environmental hazard
 | * Environmental Management and Coordination Act 1999
* Solid Waste Act
* Storage of environmentally hazardous materials
* Disposal of hazardous wastes
* Types and uses of PPEs in line with environmental regulations
* Occupational Safety and Health Act 2007
 | * Written tests
* Oral questions
* Observation of work procedures
 |
| 1. Control environmental pollution
 | * Types of pollution
* Environmental pollution control and management
* Procedures for waste management
 | * Written tests
* Oral questions
* Observation of work procedures
 |
| 1. Demonstrate sustainable use of resource
 | * Types of resources
* Sustainable resource use and management
* Principles of 3Rs (Reduce, Reuse, Recycle)
 | * Written tests
* Oral questions
* Observation of work procedures
 |

**Suggested Methods of Instruction**

* Instructor led facilitation theory
* Discussion
* Demonstration by trainer
* Assignments
* Field trip

**Recommended Resources**

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Solid Waste Act
* Environmental Management and Coordination Act 1999
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE)

**OCCUPATIONAL SAFETY AND HEALTH PRACTICES**

**UNIT CODE:** AGR/CU/FISDO/BC/07/3/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate safety and health practices

**Duration of Unit:** 15 hours

**Unit Description**

This unit specifies the competencies required to practice and promote safety and health at work. It 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.

**Summary of Learning Outcomes**

1. Prepare to apply workplace safety and health practices
2. Compliance with occupational safety and health Act

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare to apply workplace safety and health practices
 | * Awareness of legislation that outlines the minimum standards for occupational safety and health requirements/ regulations
* Benefits of implementing an occupational safety and health program
* Safety requirements/ regulations of own work and of other workers
* Workplace standards and procedures for incidents and emergencies
* Prevention and Control Measures for accidents, injuries and sickness
 | * Oral tests
* Written questions
* Observation of work procedures
 |
| 2. Compliance with occupational safety and health Act | * Safety instructions and safety signs
* Safe handling of tools, equipment and materials
* Use of safe guards and safety devices
* Reporting of hazards, incidents, injuries and sickness in the workplace
 | * Written tests
* Oral questions
* Observation of work procedures
 |

**Suggested Methods of Instruction**

* Assigments
* Discussion
* Q&A
* Role play
* Viewing of related videos

**Recommended Resources**

* Occupational safety and health standards
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Client/supplier instructions
* Organizational or external personnel
* Machine/equipment manufacturer’s specifications and instructions
* Quality standards

# COMMON UNITS OF LEARNING

# STANDARD MEASURING DEVICES AND INSTRUMENTS

**UNIT CODE:**  **AGR/CU/FISDO/CC/01/3/A**

**Relationship to Occupational Standards**

This unit addresses the unit of competency: use standard measuring devices and

Instruments

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

* 1. Standard Measuring Devices and Instruments
	2. Review the Procedures in Using Standard Measuring Devices and Instruments
	3. Follow Procedures of Using Measuring Devices and Instruments

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Identify Standard Measuring Devices and Instruments
 | * Meaning of metrology
* Types of standard measuring devices and instruments
* Safe handling of measuring devices and instruments
* Specifications and functions of measuring devices and instruments
* Defects and breakages of measuring devices and instruments
* Procedures in cleaning, sanitizing and calibrating and storing equipment and instruments
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Review the Procedures in Using Standard Measuring Devices and Instruments
 | * Procedures in using the standard measuring devices and instruments
* Adherence to approved procedures
* Improvement of laid down procedures regularly
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Follow Procedures of Using Measuring Devices and Instruments
 | * Strict observation of methods/practices of using measuring devices and instruments
* Maintenance of measuring devices and instruments
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Salinometer
* Thermometers of varying temperature range ( 0-300 C)
* Refractometer of varying range ( 0 – 90 B)
* Glassware like cylinders, beakers, flasks) of varying graduations
* 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

# FIRE PREVENTION AND FIGHTING

**UNIT CODE:**  **AGR/CU/FISDO/CC/03/3/A**

**Relationship to Occupational Standards**

This unit addresses the unit of competency: prevent and fight fire

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

* 1. Manage fire prevention procedures
	2. Operate portable firefighting equipment
	3. Conduct interior search and rescue and fire-fighting operations

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Manage fire prevention procedures
 | * Fire hazards on board a vessel
* Fire detection and firefighting equipment and systems
* Dangers of fire, how to prevent it and what to do if a fire is detected
* Emergency procedures to be followed in the event of fire
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Operate portable firefighting equipment
 | * Classes of fires
* Types of fire-fighting equipment
* Methods of extinguishing fire on board a vessel
* Recharging the various types of fire extinguishers
* Maintenance of fire-fighting equipment
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Conduct interior search and rescue and fire-fighting operations
 | * Procedures for donning and starting up SCBA (Self-Contained Breathing Apparatus)/ CABA(Compressed Air Breathing Apparatus)
* Procedures for the logging of SCBA / CABA operations on a BA Control Board
* Search and rescue operations in a smoke filled environment
* Firefighting equipment and procedures for extinguishing interior fires
* Lifeline signals used during interior firefighting operations
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* 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

# FIRST AID TREATMENT ON BOARD

**UNIT CODE:** **AGR/CU/FISDO/CR/01/3/A**

**Relationship to Occupational Standards**

This unit addresses the unit of competency: perform first aid treatment on boar.

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

1. Perform immediate lifesaving first aid pending the arrival of medical assistance
2. Recognize these symptoms and acute illness
3. Manage wounds and bleeding
4. Manage burns
5. Manage bone, joint and muscle injuries
6. Adapt first aid procedures for remote situations

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Perform immediate lifesaving first aid pending the arrival of medical assistance
 | * Principles of first aid
* Scene size-up
* Assessment of nature and extent of injury and /or illness
* Sourcing for emergency services
* Decision making-triaging
* Requirements for first aid
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Recognize the

symptoms and acute illness  | * Performing cardio- pulmonary resuscitation;
* Management of:
	+ Choking
	+ Burns and scalds
	+ Trauma
	+ Nose bleeding
	+ Cuts
	+ Fractures
	+ Drowning
	+ Poisoning
	+ Snake bites
* Assisting patients with medical conditions such as:
	+ Asthma
	+ Epilepsy
	+ Diabetes
* Effective communication on casualty’s condition
* Handing over casualty tomedical personnel
* Monitoring Casualty’s condition
* Evaluating response of the casualty to the intervention
* Documentation
* Waste management
* Report writing
* Evaluating first aider’s response to the situation
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Manage wounds and bleeding
 | * Protocols for wound assessment.
* Wound impact assessment
* Planning care for a person with a wound.
* Clinical nursing care in implementing wound care strategies
* Contemporary wound management strategies to complex or challenging wounds.
* Evaluating outcomes of nursing actions.
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Manage burns
 | * Definition of burns
* Types of burns
* Principles of burn management
* Burn assessment
* Method of treating burns
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Manage bone, joint and muscle injuries
 | * Symptoms and signs of fractures
* Problems and treatment associated with dislocated joints
* First aid treatment of pelvic and chest injuries and fractures of limbs
* Immobilization techniques
* symptoms and signs of sprains and strains
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Adapt first aid

procedures for remote situations | * Risk assessment in emergency situations
* Mobilization of first aid resources
* Operating procedures during emergencies
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested method of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* 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

# CORE UNITS OF LEARNING

# SMALL FISHING VESSELS MANAGEMENT

**UNIT CODE:** AGR/CU/FISDO/CR/01/3/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: manage small fishing vessels

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

1. Operate fishing vessels

2. Monitor condition and seaworthiness of a vessel

3. Perform routine maintenance tasks on small marine vessels

4. Troubleshoot and maintain low powered marine engines

5. Apply weather information when navigating a Vessel

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Demonstrate understanding of fishing vessels construction
 | * Definition of fishing vessel
* Basics of fishing vessel
* Types of fishing vessel
* Boat handling skills
* Forces that act on the boat
* Characteristics of materials for constructing fishing vessel
* Tools and equipment for constructing fishing vessel
* Measurements for fishing vessel.
* Procedures for constructing fishing gear.
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Monitor condition and seaworthiness of a vessel
 | * Qualities of seaworthiness
* Inspection of hull conditions
* Inspection of vessel appliances
* Assessment of working conditions in the vessel
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Perform routine maintenance tasks on a small marine vessels
 | * Scrubbing of hull surface
* Dry docking
* Vessels drying
* Repair and replacement of worn out part
* Lubrication
* Painting of the hull
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Troubleshoot and maintain low powered marine engines
 | * Vessel inspections
* Test drives
* Vessel servicing
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested Methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Equipped mechanical toolbox

# OUTBOARD MOTORS MANAGEMENT

**UNIT CODE:** AGR/CU/FISDO/CR/02/3/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: manage outboard motors

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

1. Operate outboard motors
2. Maintain outboard motors
3. Repair basic outboard motor faults

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Operate outboard

motors | * Pre-start checks on the motor
* Starting and stopping of outboard motors
* Outboard motor maneuver
* Outboard motor cooling systems.
* Trim and tilt mechanisms
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Maintain outboard

motors | * Outboard motor servicing
* Mounting of outboard motors
* Storage of outboard motors
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Repair

basic outboardmotor faults | * Types of faults
* Repair/replacement
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested Methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Engine
* Equipped mechanical toolbox
* Spare parts
* PPEs
* Oil /Fuel
* Filters
* Plugs

# FISHING GEAR TECHNOLOGY

**UNIT CODE:** AGR/CU/FISDO/CR/03/3/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: manage fishing gear

**Duration of Unit:** hours

**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.

**Summary of Learning Outcomes**

1. Design fish gear
2. Construct fish gear
3. Operate fish gear
4. Maintain fish gear

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** |  **tMethods of Assessment** |
| 1. Design fish gear
 | * Meaning of fishing gears
* Types of fishing gears
* Factors to consider when designing fishing gear
* Methods of fishing
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Construct fish gear
 | * Characteristics of materials for constructing fishing gears
* Tools and equipment for constructing fishing gears
* Measurements and mesh sizes for fishing gears.
* Procedures for constructing fishing gear.
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Operate fish gear
 | * Impacts of fishing on environment
* Procedures for deploying fishing gears
* Fishing habitat
* Fishing techniques
* Fishing operations documentation
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Maintain fish gear
 | * Cleaning and drying fishing gears
* Assessment of fishing gear conditions
* Materials and tools for repair of fishing gears.
* Fishing gear repair procedures
* Fishing gear storage
* Fishing gear maintenance documentation
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested Methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Fishing gear accessories
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Mask
* Face mask/shield
* Safety boots
* Safety harness
* Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat

# FISH AGGREGATING DEVICES

**UNIT CODE:** AGR/CU/FISDO/CR/04/3/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: manage fish aggregating devices

**Duration of Unit: 40** hours

**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.

**Summary of Learning Outcomes**

1. Design Fish aggregating devices
2. Set up Fish aggregating devices
3. Maintain Fish aggregating devices

**Learning Outcomes, Content and Suggested Assessment Methods**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Design Fish aggregating devices
 | * 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
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Set up Fish aggregating devices
 | * Guidelines on setting up FADs
* Transportation of FADs
* Types of substrates
* Factors to consider when setting up FADs
* Procedures for fixing FADs
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |
| 1. Maintain Fish aggregating devices
 | * Monitoring FADs
* FADs repair
* FADs treatment
* FAD resetting
 | * Written tests
* Third party reports
* Oral questioning
* Interview
* Observation
 |

**Suggested Methods of instructions**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Mask
* Face mask/shield
* Safety boots
* Safety harness
* Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat