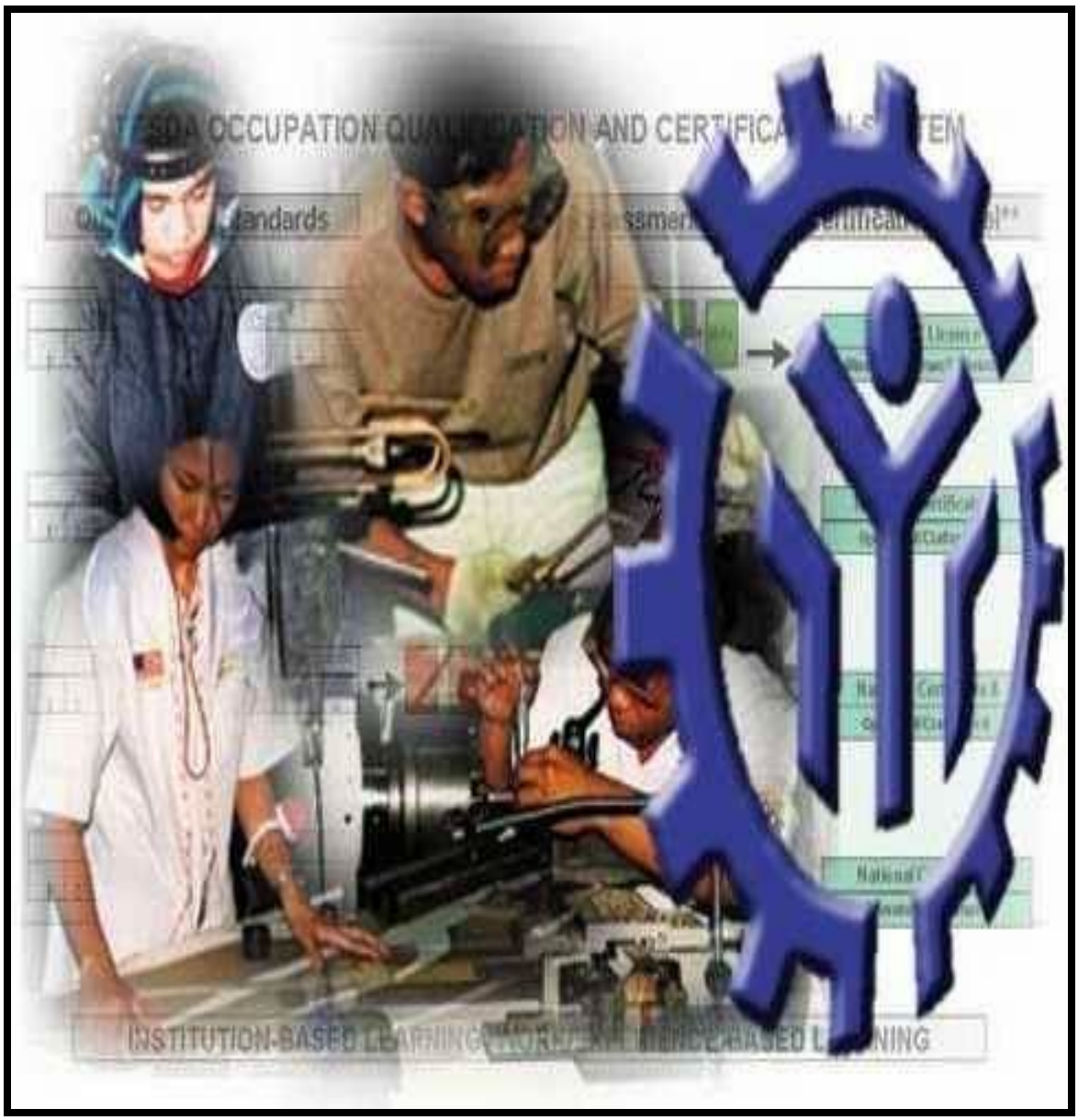
TRAINING REGULATIONS

FISH CAPTURE NC II



AGRICULTURE AND FISHERIES SECTOR

Technical Education and Skills Development Authority
East Service Road, South Superhighway, Taguig City, Metro Manila

Technical Education and Skills Development Act of 1994
(Republic Act No. 7796)

Section 22, "Establishment and Administration of the National Trade Skills Standards" of RA 7796 known as the TESDA Act of 1994 mandates TESDA to establish national occupational skill standards. The Authority shall develop and implement a certification and accreditation program in which private industry groups and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority.

The Training Regulations (TR) serve as basis for the:

1. Competency assessment and certification;
2. Registration and delivery of training programs; and
3. Development of curriculum and assessment instruments.

Each TR has four sections:

Section 1 Definition of Qualification - refers to the group of competencies that describes the different functions of the qualification.

Section 2 Competency Standards - gives the specifications of competencies required for effective work performance.

Section 3 Training Standards - contains information and requirements in designing training program for the Qualification. It includes curriculum design, training delivery; trainee entry requirements; tools, equipment and materials; training facilities; trainer's qualification and institutional assessment.

Section 4 National Assessment and Certification Arrangements - describes the policies governing assessment and certification procedures.

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TRAINING REGULATIONS FOR
FISH CAPTURE NC II

SECTION 1 FISH CAPTURE NC II QUALIFICATION

The **Fish Capture NC II** Qualification consists of competencies that a person must achieve to enable him to catch and deliver seafood products. Workers at this level would be directly engaged in fishing and other related fishing activities in inland bodies of waters and marine waters within 15 kilometers from the coastline (and other provisions for municipal waters) using fishing vessels of three (3) gross tons or less.

This Qualification is consistent with pertinent Maritime Industry Authority (MARINA) and Local Government Unit (LGU) requirements for the issuance of Motorboat Operators License (MBOL), permit to fish in municipal waters, and other licenses where required, such as fisherman's license, fishing boat license and fishing gear license.

This Qualification is packaged from the competency map of the Agriculture and Fishery Sector as shown in Annex A.

These units of competency comprising this qualification include the following:

Code	BASIC COMPETENCIES
500311105	Participate in workplace communication
500311106	Work in team environment
500311107	Practice career professionalism
500311108	Practice occupational health and safety procedures

Code	COMMON COMPETENCIES
AGR321201	Apply safety measures in farm operations
AGR321202	Use farm tools and equipment
AGR321203	Perform estimation and calculations
MTM834202	Prevent and fight fire
MTM834205	Protect marine environment
MTM834206	Comply with emergency procedures

Code	CORE COMPETENCIES
AGR641304	Operate a vessel of up to 3.0 GT
AGR641305	Monitor condition and seaworthiness of a vessel
AGR641306	Perform routine maintenance tasks on a small coastal vessel
AGR641307	Operate and troubleshoot low powered marine engines
AGR641308	Apply weather information when navigating a vessel
AGR641309	Contribute to safe navigation
AGR641310	Apply basic food handling and safety practices

Code	CORE COMPETENCIES
Combination 1	**Beach, seining, mesh or gill netting**
AGR641311	Adjust and position beach seines, mesh nets or gill nets
AGR641312	Maintain, prepare, deploy and retrieve beach seines, mesh nets or gill nets to land catch
Combination 2	**Hand-line Fishing**
AGR641313	Adjust and position hand operated lines
AGR641314	Maintain, prepare, deploy and retrieve hand operated lines to land catch
Combination 3	**Pots and Traps**
AGR641315	Adjust and position pots and traps
AGR641316	Maintain, prepare, deploy and retrieve pots and traps to land catch
Code	**ELECTIVE COMPETENCIES**
AGR641302	Load and unload goods / cargo
AGR641303	Assemble and repair damaged netting
AGR641317	Implement the food safety program and procedures
AGR641318	Keep record for a municipal fishing business
AGR641319	Apply basic first aid
AGR641320	Operate and maintain marine outboard motors
AGR641321	Transmit and receive information by marine radio or telephone
AGR641322	Perform breath hold diving operations
AGR641323	Assemble and load refrigerated product
AGR641324	Shift a load using manually-operated equipment
AGR641325	Maintain the temperature of seafood
AGR641326	Work with temperature controlled stock
AGR641327	Conduct field observations
AGR641328	Monitor and record fishing operations

A person who has achieved this Qualification is competent to be:

- ❑ **Municipal Fisherman**

SECTION 2 COMPETENCY STANDARDS

These guidelines are set to provide the Technical Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **Fish Capture NC II.** These units of competency are categorized into basic, common and core competencies.

BASIC COMPETENCIES

UNIT OF COMPETENCY : **PARTICIPATE IN WORKPLACE COMMUNICATION**

UNIT CODE : **500311105**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Obtain and convey workplace information	1.1. Specific and relevant information is accessed from ***appropriate sources*** 1.2. Effective questioning , active listening and speaking skills are used to gather and convey information 1.3. Appropriate ***medium*** is used to transfer information and ideas 1.4. Appropriate non- verbal communication is used 1.5. Appropriate lines of communication with supervisors and colleagues are identified and followed 1.6. Defined workplace procedures for the location and ***storage*** of information are used 1.7. Personal interaction is carried out clearly and concisely
2. Participate in workplace meetings and discussions	2.1. Team meetings are attended on time 2.2. Own opinions are clearly expressed and those of others are listened to without interruption 2.3. Meeting inputs are consistent with the meeting purpose and established ***protocols*** 2.4. ***Workplace interactions*** are conducted in a courteous manner 2.5. Questions about simple routine workplace procedures and maters concerning working conditions of employment are asked and responded 2.6. Meetings outcomes are interpreted and implemented
3. Complete relevant work related documents	3.1. Range of ***forms*** relating to conditions of employment are completed accurately and legibly 3.2. Workplace data is recorded on standard workplace forms and documents 3.3. Basic mathematical processes are used for routine calculations 3.4. Errors in recording information on forms/ documents are identified and properly acted upon 3.5. Reporting requirements to supervisor are completed according to organizational guidelines

RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	1.1. Team members 1.2. Suppliers 1.3. Trade personnel 1.4. Local government 1.5. Industry bodies
2. Medium	2.1. Memorandum 2.2. Circular 2.3. Notice 2.4. Information discussion 2.5. Follow-up or verbal instructions 2.6. Face to face communication
3. Storage	3.1. Manual filing system 3.2. Computer-based filing system
4. Forms	4.1. Personnel forms, telephone message forms, safety reports
5. Workplace interactions	5.1. Face to face 5.2. Telephone 5.3. Electronic and two way radio 5.4. Written including electronic, memos, instruction and forms, non-verbal including gestures, signals, signs and diagrams
6. Protocols	6.1. Observing meeting 6.2. Compliance with meeting decisions 6.3. Obeying meeting instructions

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Prepared written communication following standard format of the organization 1.2. Accessed information using communication equipment 1.3. Made use of relevant terms as an aid to transfer information effectively 1.4. Conveyed information effectively adopting the formal or informal communication
2. Underpinning Knowledge and Attitudes	2.1. Effective communication 2.2. Different modes of communication 2.3. Written communication 2.4. Organizational policies 2.5. Communication procedures and systems 2.6. Technology relevant to the enterprise and the individual's work responsibilities
3. Underpinning Skills	3.1. Follow simple spoken language 3.2. Perform routine workplace duties following simple written notices 3.3. Participate in workplace meetings and discussions 3.4. Complete work related documents 3.5. Estimate, calculate and record routine workplace measures 3.6. Basic mathematical processes of addition, subtraction, division and multiplication 3.7. Ability to relate to people of social range in the workplace 3.8. Gather and provide information in response to workplace Requirements
4. Resource Implications	4.1. Fax machine 4.2. Telephone 4.3. Writing materials 4.4. Internet
5. Methods of Assessment	5.1. Direct Observation 5.2. Oral interview and written test
6. Context of Assessment	6.1. Competency may be assessed individually in the actual workplace or through accredited institution

UNIT OF COMPETENCY : **WORK IN TEAM ENVIRONMENT**

UNIT CODE : **500311106**

UNIT DESCRIPTOR : This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Describe team role and scope	1.1. The ***role and objective of the team*** is identified from available ***sources of information***
	1.2. Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources
2. Identify own role and responsibility within team	2.1. Individual role and responsibilities within the team environment are identified
	2.2. Roles and responsibility of other team members are identified and recognized
	2.3. Reporting relationships within team and external to team are identified
3. Work as a team member	3.1. Effective and appropriate forms of communications used and interactions undertaken with team members who contribute to known team activities and objectives
	3.2. Effective and appropriate contributions made to complement team activities and objectives, based on individual skills and competencies and ***workplace context***
	3.3. Observed protocols in reporting using standard operating procedures
	3.4. Contribute to the development of team work plans based on an understanding of team's role and objectives and individual competencies of the members.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	1.1. Work activities in a team environment with enterprise or specific sector 1.2. Limited discretion, initiative and judgement maybe demonstrated on the job, either individually or in a team environment
2. Sources of information	2.1. Standard operating and/or other workplace procedures 2.2. Job procedures 2.3. Machine/equipment manufacturer's specifications and instructions 2.4. Organizational or external personnel 2.5. Client/supplier instructions 2.6. Quality standards 2.7. OHS and environmental standards
3. Workplace context	3.1. Work procedures and practices 3.2. Conditions of work environments 3.3. Legislation and industrial agreements 3.4. Standard work practice including the storage, safe handling and disposal of chemicals 3.5. Safety, environmental, housekeeping and quality guidelines

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1. Operated in a team to complete workplace activity 1.2. Worked effectively with others 1.3. Conveyed information in written or oral form 1.4. Selected and used appropriate workplace language 1.5. Followed designated work plan for the job 1.6. Reported outcomes
2. Underpinning Knowledge and Attitude	2.1. Communication process 2.2. Team structure 2.3. Team roles 2.4. Group planning and decision making
3. Underpinning Skills	3.1. Communicate appropriately, consistent with the culture of the workplace
4. Resource Implications	The following resources **MUST** be provided: 4.1. Access to relevant workplace or appropriately simulated environment where assessment can take place 4.2. Materials relevant to the proposed activity or tasks
5. Methods of Assessment	Competency may be assessed through: 5.1. Observation of the individual member in relation to the work activities of the group 5.2. Observation of simulation and or role play involving the participation of individual member to the attainment of organizational goal 5.3. Case studies and scenarios as a basis for discussion of issues and strategies in teamwork
6. Context for Assessment	6.1. Competency may be assessed in workplace or in a simulated workplace setting 6.2. Assessment shall be observed while task are being undertaken whether individually or in group

UNIT OF COMPETENCY : **PRACTICE CAREER PROFESSIONALISM**

UNIT CODE : **500311107**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in promoting career growth and advancement.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Integrate personal objectives with organizational goals	1.1 Personal growth and work plans are pursued towards improving the qualifications set for the profession 1.2 Intra and interpersonal relationships are maintained in the course of managing oneself based on performance ***evaluation*** 1.3 Commitment to the organization and its goal is demonstrated in the performance of duties
2. Set and meet work priorities	2.1 Competing demands are prioritized to achieve personal, team and organizational goals and objectives. 2.2 ***Resources*** are utilized efficiently and effectively to manage work priorities and commitments 2.3 Practices along economic use and maintenance of equipment and facilities are followed as per established procedures
3. Maintain professional growth and development	3.1 ***Trainings and career opportunities*** are identified and availed of based on job requirements 3.2 ***Recognitions*** are sought/received and demonstrated as proof of career advancement 3.3 ***Licenses and/or certifications*** relevant to job and career are obtained and renewed

RANGE OF VARIABLES

VARIABLE	RANGE
1. Evaluation	1.1 Performance Appraisal 1.2 Psychological Profile 1.3 Aptitude Tests
2. Resources	2.1 Human 2.2 Financial 2.3 Technology 2.3.1 Hardware 2.3.2 Software
3. Trainings and career opportunities	3.1 Participation in training programs 3.1.1 Technical 3.1.2 Supervisory 3.1.3 Managerial 3.1.4 Continuing Education 3.2 Serving as Resource Persons in conferences and workshops
4. Recognitions	4.1 Recommendations 4.2 Citations 4.3 Certificate of Appreciations 4.4 Commendations 4.5 Awards 4.6 Tangible and Intangible Rewards
5. Licenses and/or certifications	5.1 National Certificates 5.2 Certificate of Competency 5.3 Support Level Licenses 5.4 Professional Licenses

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Attained job targets within key result areas (KRAs) 1.2 Maintained intra - and interpersonal relationship in the course of managing oneself based on performance evaluation 1.3 Completed training and career opportunities which are based on the requirements of the industries 1.4 Acquired and maintained licenses and/or certifications according to the requirement of the qualification
2. Underpinning Knowledge	2.1 Work values and ethics (Code of Conduct, Code of Ethics, etc.) 2.2 Company policies 2.3 Company-operations, procedures and standards 2.4 Fundamental rights at work including gender sensitivity 2.5 Personal hygiene practices
3. Underpinning Skills	3.1 Appropriate practice of personal hygiene 3.2 Intra and Interpersonal skills 3.3 Communication skills
4. Resource Implications	The following resources **MUST** be provided: 4.1 Workplace or assessment location 4.2 Case studies/scenarios
5. Methods of Assessment	Competency may be assessed through: 5.1 Portfolio Assessment 5.2 Interview 5.3 Simulation/Role-plays 5.4 Observation 5.5 Third Party Reports 5.6 Exams and Tests
6. Context of Assessment	6.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY : **PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURES**

UNIT CODE : **00311108**

UNIT DESCRIPTOR : This unit covers the outcomes required to comply with regulatory and organizational requirements for occupational health and safety.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Identify hazards and risks	1.1. ***Safety regulations*** and workplace safety and hazard control practices and procedures are clarified and explained based on organization procedures 1.2. ***Hazards/risks*** in the workplace and their corresponding indicators are identified to minimize or eliminate risk to co-workers, workplace and environment in accordance with organization procedures 1.3. ***Contingency measures*** during workplace accidents, fire and other emergencies are recognized and established in accordance with organization procedures
2. Evaluate hazards and risks	2.1. Terms of maximum tolerable limits which when exceeded will result in harm or damage are identified based on threshold limit values (TLV) 2.2. Effects of the hazards are determined 2.3. OHS issues and/or concerns and identified safety hazards are reported to designated personnel in accordance with workplace requirements and relevant workplace OHS legislation
3. Control hazards and risks	3.1. Occupational Health and Safety (OHS) procedures for controlling hazards/risks in workplace are consistently followed 3.2. Procedures for dealing with workplace accidents, fire and emergencies are followed in accordance with organization OHS policies 3.3. ***Personal protective equipment (PPE)*** is correctly used in accordance with organization OHS procedures and practices 3.4. Appropriate assistance is provided in the event of a workplace emergency in accordance with established organization protocol
4. Maintain OHS awareness	4.1. ***Emergency-related drills and trainings*** are participated in as per established organization guidelines and procedures 4.2. ***OHS personal records*** are completed and updated in accordance with workplace requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Safety regulations	May include but are not limited to: 1.1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Philippine Occupational Safety and Health Standards 1.6 DOLE regulations on safety legal requirements 1.7 ECC regulations
2. Hazards/Risks	May include but are not limited to: 2.1 Physical hazards – impact, illumination, pressure, noise, vibration, temperature, radiation 2.2 Biological hazards- bacteria, viruses, plants, parasites, mites, molds, fungi, insects 2.3 Chemical hazards – dusts, fibers, mists, fumes, smoke, gasses, vapors 2.4 Ergonomics 2.4.1 Psychological factors – over exertion/ excessive force, awkward/static positions, fatigue, direct pressure, varying metabolic cycles 2.4.2 Physiological factors – monotony, personal relationship, work out cycle
3. Contingency measures	May include but are not limited to: 3.1 Evacuation 3.2 Isolation 3.3 Decontamination 3.4 (Calling designed) emergency personnel
4. PPE	May include but are not limited to: 4.1 Mask 4.2 Gloves 4.3 Goggles 4.4 Hair Net/cap/bonnet 4.5 Face mask/shield 4.6 Ear muffs 4.7 Apron/Gown/coverall/jump suit 4.8 Anti-static suits
5. Emergency-related drills and training	5.1 Fire drill 5.2 Earthquake drill 5.3 Basic life support/CPR 5.4 First aid 5.5 Spillage control 5.6 Decontamination of chemical and toxic 5.7 Disaster preparedness/management
6. OHS personal records	6.1 Medical/Health records 6.2 Incident reports 6.3 Accident reports 6.4 OHS-related training completed

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Explained clearly established workplace safety and hazard control practices and procedures 1.2 Identified hazards/risks in the workplace and its corresponding indicators in accordance with company procedures 1.3 Recognized contingency measures during workplace accidents, fire and other emergencies 1.4 Identified terms of maximum tolerable limits based on threshold limit value (TLV) 1.5 Followed Occupational Health and Safety (OHS) procedures for controlling hazards/risks in workplace 1.6 Used Personal Protective Equipment (PPE) in accordance with company OHS procedures and practices 1.7 Completed and updated OHS personal records in accordance with workplace requirements
2. Underpinning Knowledge and Attitude	2.1 OHS procedures and practices and regulations 2.2 PPE types and uses 2.3 Personal hygiene practices 2.4 Hazards/risks identification and control 2.5 Threshold Limit Value -TLV 2.6 OHS indicators 2.7 Organization safety and health protocol 2.8 Safety consciousness 2.9 Health consciousness
3. Underpinning Skills	3.1 Practice of personal hygiene 3.2 Hazards/risks identification and control skills 3.3 Interpersonal skills 3.4 Communication skills
4. Resource Implications	The following resources must be provided: 4.1 Workplace or assessment location 4.2 OHS personal records 4.3 PPE 4.4 Health records
5. Methods of Assessment	Competency may be assessed through: 5.1 Portfolio Assessment 5.2 Interview 5.3 Case Study/Situation
6. Context for Assessment	6.1 Competency may be assessed in the work place or in a simulated work place setting

COMMON COMPETENCIES

UNIT OF COMPETENCY : **APPLY SAFETY MEASURES IN FARM OPERATIONS**

UNIT CODE : **AGR321201**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform safety measures effectively and efficiently. It includes identifying areas, tools, materials, time and place in performing safety measures.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Determine areas of concern for safety measures	1.1 ***Work tasks*** are identified in line with farm operations 1.2 ***Place*** for safety measures are determined in line with farm operations 1.3 ***Time*** for safety measures are determined in line with farm operations 1.4 Appropriate ***tools, materials and outfits*** are prepared in line with job requirements
2. Apply appropriate safety measures	2.1 Tools and materials are used according to specifications and procedures 2.2 Outfits are worn according to farm requirements 2.3 Effectivity/shelf life/expiration of materials are strictly observed 2.4 ***Emergency procedures*** are known and followed to ensure a safework requirement 2.5 Hazards in the workplace are identified and reported in line with farm guidelines
3. Safekeep/dispose tools, materials and outfit	3.1 Used tools and outfit are cleaned after use and stored in designated areas 3.2 Unused materials are properly labeled and stored according to manufacturers recommendation and farm requirements 3.3 ***Waste materials*** are disposed according to manufacturers, government and farm requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work tasks	Work task may be selected from any of the following sectors: 1.1 Aquaculture 1.2 Animal Production 1.3 Crop Production 1.4 Post-harvest 1.5 Agri-marketing 1.6 Farm Equipment
2. Place	2.1 Animal pens, cages, barns 2.2 Fish ponds, cages 2.3 Stock room/storage areas/warehouse 2.4 Field/farm/orchard
3. Time	3.1 Vaccination and medication period 3.2 Fertilizer and pesticides application 3.3 Feed mixing and feeding 3.4 Harvesting and hauling
4. Tools, materials and outfits	4.1 Tools 4.1.1 Wrenches 4.1.2 Screw driver 4.1.3 Pliers 4.2 Materials 4.2.1 Bottles 4.2.2 Plastic 4.2.3 Bags 4.2.4 Syringe 4.3 Outfit 4.3.1 Masks 4.3.2 Gloves 4.3.3 Boots 4.3.4 Overall coats 4.3.5 Hat 4.3.6 Eye goggles
5. Emergency procedures	5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Waste materials	6.1 Animal manure 6.2 Waste water 6.3 Syringes 6.4 Unused farm chemicals e.g. pesticides, chemicals, fertilizers 6.5 Expired reagents 6.6 Dead animals
7. Hazards	7.1 Chemical 7.2 Electrical 7.3 Falls

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Determined areas of concern for safety measures 1.2 Applied appropriate safety measures according to industry requirements 1.3 Prepared tools, materials and outfit needed 1.4 Performed proper disposal of used materials 1.5 Safekeep/cleaned tools, materials and outfit in designated facilities
2. Underpinning Knowledge and Attitudes	2.1 Safety Practices 2.1.1 Implementation of regulatory controls and policies relative to treatment of area and application of chemicals 2.1.2 Proper disposal of waste materials 2.2 Codes and Regulations 2.2.1 Compliance to health program of DOH and DENR 2.2.2 Hazard identification 2.2.3 Emergency procedures 2.3 Tools & Equipment: Uses and Specification 2.3.1 Masks, gloves, boots, overall coats for health protection 2.4 Maintenance 2.4.1 Regular check-up and repair of tools, materials and outfit before and after use
3. Underpinning Skills	3.1 Ability to recognize effective tools, materials and outfit 3.2 Ready skills required to read labels, manuals and other basic safety information
4. Method of Assessment	Competency in this unit must be assessed through: 4.1 Practical demonstration 4.2 Third Party Report
5. Resource Implications	5.1 Farm location 5.2 Tools, equipment and outfits appropriate in applying safety measures
6. Context of Assessment	6.1 Assessment may occur in the workplace or in a simulated workplace or as part of a team under limited supervision

UNIT OF COMPETENCY : **USE FARM TOOLS AND EQUIPMENT**

UNIT CODE : **AGR321202**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to use farm tools and equipment. It includes selection, operation and preventive maintenance of farm tools and equipment.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Select and use farm tools	1.1 Identified appropriate farm tools according to requirement/use 1.2 Farm tools are checked for faults and defective tools reported in accordance with farm procedures 1.3 Appropriate tools and equipment are safely used according to job requirements and manufacturers conditions
2. Select and operate farm equipment	2.1 Identify appropriate ***farm equipment*** 2.2 Instructional manual of the farm tools and equipment are carefully read prior to operation 2.3 ***Pre-operation check-up*** is conducted in line with manufacturers manual 2.4 Faults in farm equipment are identified and reported in line with farm procedures 2.5 Farm equipment used according to its function 2.6 Followed safety procedures
3. Perform preventive maintenance	3.1 Tools and equipment are cleaned immediately after use in line with farm procedures 3.2 Routine check-up and maintenance are performed 3.3 Tools and equipment are stored in designated areas in line with farm procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Farm equipment	1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	2.1 Sickle 2.2 Cutters 2.3 Weighing scales 2.4 Hand tools 2.5 Measuring tools 2.6 Garden tools
3. Pre-operation check-up	3.1 Tires 3.2 Brake fluid 3.3 Fuel 3.4 Water 3.5 Oil 3.6 Lubricants 3.7 Battery

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Correctly identified appropriate farm tools and equipment 1.2 Operated farm equipments according to manual specification 1.3 Performed preventive maintenance
2. Underpinning Knowledge and Attitudes	2.1 Safety Practices 2.1.1 Ideal good work habits to demonstrate to workers easy and safety standards during operation of farm equipment 2.2 Codes and Regulations 2.2.1 Environmental Compliance Certificate (ECG) 2.2.2 Effective work supervision in the operations of farm equipment 2.3 Tools & Equipment: Uses and Specification 2.3.1 Knowledge in calibrating and use of equipment 2.3.2 Safety keeping of equipments every after use 2.4 Maintenance 2.4.1 Regular upkeep of equipments 2.4.2 Preventive maintenance skills 2.5 Values 2.5.1 Positive outlook towards work 2.5.2 Possesses pre-emptive/anticipatory skills
3. Underpinning Skills	3.1 Ability to recognized defective farm equipment 3.2 Perform proper management practices of safety measures
4. Method of Assessment	Competency in this unit must be assessed through: 4.1 Direct observation 4.2 Practical demonstration 4.3 Third Party Report
5. Resource Implications	5.1 Service/operational manual of farm tools and equipment 5.2 Tools and equipment 5.3 Farm implements
6. Context of Assessment	6.1 Assessment may occur in the workplace or in a simulated workplace or as part of a team under limited supervision

UNIT OF COMPETENCY : **PERFORM ESTIMATION AND BASIC CALCULATION**

UNIT CODE : **AGR321203**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform basic workplace calculations.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Perform estimation	1.1 Job requirements are identified from written or oral communications 1.2 Quantities of materials and resources required to complete a work task are estimated 1.3 The time needed to complete a work activity is estimated 1.4 Accurate estimate for work completion are made 1.5 Estimate of materials and resources are reported to appropriate person
2. Perform basic workplace calculation	2.1 ***Calculations*** to be made are identified according to job requirements 2.2 Correct ***method of calculation*** identified 2.3 ***System and units of measurement*** to be followed are ascertained 2.4 Calculation needed to complete work tasks are performed using the four basic process of addition, division, multiplication and subtraction 2.5 Calculate whole fraction, percentage and mixed when are used to complete the instructions 2.6 Number computed in self checked and completed for alignment

RANGE OF VARIABLES

VARIABLE	RANGE
1. Calculations	1.1 Quantity of feeds 1.2 Amount of fertilizer 1.3 Amount of medicines
2. Method of calculation	2.1 Addition 2.2 Subtraction 2.3 Multiplication 2.4 Division 2.5 Ratio and proportion
3. System of measurement	3.1 English 3.2 Metric
4. Units of measurement	4.1 Area 4.2 Volume 4.3 Weight

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed estimation 1.2 Performed basic workplace calculation 1.3 Applied corrective measures as maybe necessary
2. Underpinning Knowledge and Attitudes	2.1 Mathematics 2.1.1 Basic mathematical operations 2.1.2 Percentage and ratios 2.1.3 Unit Conversion 2.1.4 Basic accounting principles and procedures 2.1.4.1 Production cost 2.1.4.2 Sales 2.1.4.3 Accounts receivables/payables 2.2 Systems, Processes and Operations 2.2.1 Knowledge in different management practices and operational procedures 2.3 Values 2.3.1 Safety consciousness 2.3.2 Time consciousness and management 2.3.3 Cost consciousness 2.3.4 Precision
3. Underpinning Skills	3.1 Ability to perform basic calculation 3.2 Communicate effectively
4. Method of Assessment	Competency in this unit must be assessed through: 4.1 Practical demonstration 4.2 Written examination
5. Resource Implications	5.1 Relevant tools and equipment for basic calculation 5.2 Recommended data
6. Context of Assessment	6.1 Assessment may occur in the workplace or in a simulated workplace or as part of a team under limited supervision

UNIT OF COMPETENCY : **APPLY FOOD SAFETY AND SANITATION**

UNIT CODE : **AGR741201**

UNIT DESCRIPTOR : This unit deals with the skills, knowledge and attitudes required to apply food safety and sanitation in the workplace

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
11. Wear Personal Protective Equipment	1.1 Personal protective equipment are checked according to ***manufacturer's specifications***
	1.2 ***Personal protective equipment*** are worn according to the job requirement
2. Observe Personal Hygiene and Good Grooming	2.1 *Personal hygiene and good grooming is practiced in line with* ***workplace health and safety requirements***
3. Implement Food Sanitation Practices	3.1 Sanitary food handling practices are implemented in line with workplace sanitation regulations
	3.2 Safety measures are observed in line with workplace safety practices.
4. Render Safety Measures and First Aid Procedures	4.1 ***Safety measures*** are applied according to workplace rules and regulations
	4.2 ***First aid procedures*** are applied and coordinated with concerned personnel according to workplace standard operating procedures.
5. Implement housekeeping activities	5.1 Work area and surroundings are cleaned in accordance with workplace health and safety regulations
	5.2 Waste is disposed according to organization's waste disposal system
	5.3 ***Hazards*** in the work area are recognized and reported to designated personnel according to workplace procedures

RANGE OF VARIABLES

VARIABLES	RANGE
1. Manufacturer's Specifications	Manufacturer's specifications may include but not limited to: 1.1 Handling 1.2 Operating 1.3 Discharge Label 1.4 Reporting 1.5 Testing 1.6 Positioning 1.7 Refilling
2. Personal Protective Equipment	Personal Protective Equipment may include but not limited to: 2.1 Apron/laboratory gown 2.2 Mouth masks 2.3 Gloves 2.4 Rubber boots/safety shoes 2.5 Head gears such as caps, hair nets, earl plug
3. Workplace Health and Safety Requirements	Workplace and Safety Requirements may include: 3.1 Health/Medical Certificate 3.2 DOLE requirements 3.3 BFAD requirements 3.4 Personal Hygiene and good grooming 3.5 Plant Sanitation and waste management
4. Safety Measures	Safety measures may include but not limited to: 4.1 Labeling of chemicals and other sanitizing agents 4.2 Installation of fire fighting equipment in the work area 4.3 Installation of safety signages and symbols 4.4 Implementation of 5S in the work area 4.5 Removal of combustible material in the work area
5. First Aid Procedures	First Aid Procedures may include but not limited to: 5.1 Mouth to mouth resuscitation 5.2 CPR 5.3 Application of tourniquet 5.4 Applying pressure to bleeding wounds or cuts 5.5 First aid treatment for burned victims
6. Hazards	Hazards in the workplace may include but not limited to: 6.1 Physical 6.2 Biological 6.3 Chemical

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Cleaned, checked and sanitized personal protective equipment 1.2 Practiced proper personal hygiene and good grooming 1.3 Implemented workplace food safety practices 1.4 Applied first aid measures to victims 1.5 Implemented good housekeeping activities in the work area
2. Underpinning Knowledge	2.1 Safety Practices 2.1.1 Proper waste disposal 2.1.2 Environmental protection and concerns 2.1.3 Food safety principles and practices 2.1.4 Good grooming and personal hygiene 2.2 Codes and Regulations 2.2.1 TQM and other food quality system principles 2.2.2 ISO, HACCP, EMS, 5S 2.2.3 Good Food Manufacturing Practices 2.3 Equipment: Uses and Specifications 2.3 1 Parts and functions of personal protective equipment 2.3.2 First Aid Kit 2.3.3 Sanitizing equipment
3. Underpinning Skills	3.1 Sanitary food handling practices 3.2 Implementing housekeeping activities 3.3 Applying first aid treatment 3.4 Coordination skills
4. Methods of Assessment	Competency in this unit must be assessed through: 4.1 A combination of direct observation and questioning of a candidate processing foods.
5. Resource Implications	The following resources must be provided: 5.1 Work area/station 5.2 First Aid kit 5.3 PPE relevant to the activities 5.4 Fire extinguisher 5.5 Stretcher 5.6 Materials, tools and equipment relevant to the unit of competency
6. Context of Assessment	6.1 Assessment should occur on the job or in a simulated workplace

UNIT OF COMPETENCY : **PREVENT AND FIGHT FIRE**

UNIT CODE : **MTM834202**

UNIT DESCRIPTOR : This unit identifies the competence required to prevent and fight fires on board a vessel, including management of fire prevention measures, initiation and management of evacuation, emergency shutdown and isolation procedures and the execution and coordination of fire-fighting operations

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Manage fire prevention procedures	1.1. Fire hazards on board a vessel are identified and action is taken to eliminate or minimize them 1.2. ***Fire detection and fire fighting equipment and systems*** are regularly checked and appropriate action is taken to ensure that they are operational 1.3. Appropriate educational activities are organized to ensure on-board personnel are aware of the dangers of fire, how to prevent it and what to do if a fire is detected 1.4. Personnel on board a vessel are made aware of emergency procedures to be followed in the event of fire
2. Operate portable fire-fighting equipment	2.1. ***Classes of fires*** are correctly identified in accordance with accepted fire-fighting practice 2.2. Correct portable fire-fighting equipment is selected and used to fight specific classes of fires 2.3. Class F fires are correctly extinguished with a fire blanket in accordance with accepted fire-fighting practice 2.4. ***Methods of extinguishing fire*** on board a vessel are correctly applied 2.5. Correct techniques are applied for the setting up of foam making equipment to extinguish B Class fires on board vessel 2.6. Where applicable, correct techniques are used to recharge the various types of portable fire extinguisher 2.7. Where applicable, portable fire-fighting equipment is confirmed as operational following recharging
3. Conduct interior search and rescue and fire-fighting operations (where applicable)	3.1. Procedures for donning and starting up SCBA / CABA are correctly applied 3.2. 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 3.3. 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 3.4. Interior fires are extinguished using appropriate fire fighting equipment and procedures as a member of a fire fighting team in accordance with accepted fire-fighting practice 3.5. Lifeline signals are correctly used during interior fire fighting operations 3.6. A compartment filled with high expansion foam is correctly entered as per accepted fire-fighting practice

RANGE OF VARIABLES

VARIABLE	RANGE
1. Classes of Fire	Class A 1.1. All solid materials, usually organic origin in nature (contains compounds of carbon) and generally produce glowing embers – i.e., wood, textiles, curtains, furniture and plastics. Class B 1.2. All flammable liquids and solids, which can also be sub-divided into : 1.3. Miscible with water (i.e., petrol, oils, lubricants, paints and waxes) 1.4. Non-miscible with water (e.g., alcohol) Class C 1.5. Fires involving domestic main gas, cylinder gases (e.g., Acetylene) or Liquid Petroleum Gases (LPG) such as Butane or Propane) Class D 1.6. Fires involving metals (where water is generally ineffective and dangerous) i.e., metal powders such as magnesium, titanium, and alloys, etc. Class F 1.7. New class specifically dealing with high temperature 1.8. (360 degrees centigrade) cooking oils in large industrial catering kitchens, restaurants and takeaway establishments, etc. 1.9. Electrical 1.10. Electrical fires are not considered to constitute a fire class on their own, as electricity is a source of ignition that will feed the fire until removed. When the electrical supply has been isolated. The fire can be treated (generally) as Class A for extinguishing purposes. However, you should use a non-conducting agent on all possible occasions.
2. Fire detection and fire fighting equipment and system	2.1. Portable fire extinguisher including foam, water, CO2, dry chemical and wet foam 2.2. Fire blankets 2.3. C02 fixed system 2.4. Foam installation including semi-portable and fixed system 2.5. Sprinkler system 2.6. Fire pumps (main and emergency fire pump 2.7. Fire hoses, hydrants, branches and international shore connection
3. Methods of Extinguishing fire	3.1. Cooling 3.2. Reducing the ignition temperature by taking the heat out of the fire – using water (limiting the temperature) 3.3. Smothering 3.4. Limiting the oxygen available by smothering and preventing the mixture of oxygen and flammable vapour – by use of foam or a fire blanket

VARIABLE	RANGE
	3.5. Starving 3.6. Limiting the fuel supply – by removing the source of fuel ; by switching off electrical power, isolating the flow of flammable liquids or pulling away burning wood or straw, etc. 3.7. Chemical Reaction 3.8. By interrupting the chain of combustion and combining the hydrogen atoms with chlorine atoms in the hydrocarbon chain, e.g. Halons extinguisher (NB: Halons have now generally been withdrawn under the Montreal Protocol of 1990, as ozone depleting agents)

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate : 1.1. Managed and implemented fire prevention measures and procedures on board a vessel 1.2. Assessed the operational capability of fire detection and fire fighting equipment and systems and initiate any required maintenance or replenishment action 1.3. Participated in simulated on board fire fighting activities 1.4. Participated in search and rescue and fire fighting teams 1.5. Implemented OHS principles and policies when carrying out fire fighting duties 1.6. Communicated effectively with others as required during fire emergencies
2. Underpinning knowledge and attitude	2.1. Chemistry of fire and its relationship to materials typically carried on vessels 2.2. Types of fire detection, fire fighting, life saving and safety equipment and systems used on board vessels and the procedures for their use 2.3. Relevant regulations, code of practice, policies and procedures related to the maintenance of fire detection, fire fighting, life saving and safety equipment and system 2.4. Faults that can occur with shipboard fire detection, fire fighting, life saving and safety equipment and appropriate remedial action and solutions 2.5. Statutory and typical company requirements for the documentation of maintenance procedures and outcomes for fire detection, fire fighting, life saving and safety equipment and systems used on board vessels.
3. Underpinning skills	3.1. Procedures in checking and replacing consumable materials in typical ship board fire detection, fire-fighting and safety equipment and system 3.2. Procedures in identifying and evaluating operational and maintenance problems with fire-detection, fire fighting, life saving and safety equipment and systems and determining appropriate courses of action 3.3. Procedures in identifying and implementing improvements to maintenance for fire-detection and fire-fighting. 3.4. Procedures on onboard housekeeping processes.
4. Resource implications	The following resources must be provided: 4.2. Work place location 4.3. Tools and equipment appropriate to schedule housekeeping activities and to monitor and maintain working condition 4.4. Material relevant to the proposed activity and tasks
5. Method of assessment	Competency must be assessed through : 5.1. Demonstration and questioning of related underpinning knowledge 5.2. Written Examination 5.3. Portfolio
6. Context for assessment	6.1. Competency may be assessed in workplace or in a simulated workplace setting 6.2. Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : **PERFORM FIRST AID TREATMENT ON BOARD**

UNIT CODE : **MTM834204**

UNIT DESCRIPTOR : This unit identifies the competence required to perform first aid treatment to crew and / or passengers during a medical emergency on board a vessel, including the performance of immediate life saving first aid until qualified medical assistance is available, the recognition of symptoms and signs of acute illness and or injury and the taking of appropriate action.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Perform immediate life saving first aid pending the arrival of medical assistance	1.1. The priorities of ***First Aid Care*** are correctly applied in real or simulated first aid situation 1.2. The DRABC Action plan is correctly used to identify and control danger, loss of consciousness, loss of airway, breathing and circulation 1.3. 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 1.4. 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
2. Recognize the symptoms and acute illness and or injury and take appropriate action	2.1. The ***conditions requiring special first aid procedures*** are correctly identified 2.2. A real or simulated unconscious casualty is cared for in accordance with established first aid procedures 2.3. Causes of respiratory failure and breathing difficulty are correctly identified and appropriate care is provided for a real or simulated casualty with obstructed breathing 2.4. The symptoms and signs of casualty with angina pain, heart attack and heart failure are correctly identified 2.5. The symptoms and signs of poisoning, bites and stings are correctly identified and appropriate immediate management of thee conditions is provided in real or simulated situation 2.6. A real or simulated conscious casualty with an acute illness and or injury is cared for in accordance with established first aid procedures
3. Manage wounds and bleeding	3.1. Severe external bleeding is correctly controlled in a real or simulated situation 3.2. 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 3.3. A real or simulated laceration, abrasion and a deep puncture wound is correctly manage in accordance with established first aid procedures

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
	3.4. The signs of wound infections are correctly identified and a real or simulated wound infection is correctly managed in accordance with established procedures
4. Manage burns	4.1. Immediate rescue procedures are correctly used in real or simulated first aid situations involving a burned casualty 4.2. The severity of burn is correctly assessed in terms of depth, position and size in accordance with established procedures 4.3. The correct method of treatment for burns and associated shock is correctly applied in real or simulated first aid situations involving a burned casualty
5. Manage bone, joint and muscle injuries	5.1. Symptoms and signs of fractures (simple and complicated) are correctly recognized in accordance with established first aid procedures 5.2. Problems and treatment associated with dislocated joints are correctly managed in accordance with established procedures 5.3. First aid treatment of pelvic and chest injuries and fractures of limbs, including immobilization techniques is correctly performed in accordance with established procedures 5.4. The symptoms and signs of sprains and strains are correctly identified in accordance with established procedure
6. Adapt first aid procedures for remote situations	6.1. Safety precautions needed to prevent accidents, illness and injuries and infection in remote areas situations are correctly applied in real or simulated situations 6.2. Identify and discuss the factors involved in the prevention of heat and cold exposure 6.3. The symptoms and signs of real or simulated casualty exposed to heat or cold are correctly identified including hyperthermia and hypothermia and appropriate management of the casualty carried out in accordance with established procedures 6.4. A real or simulated ill or injured person in remote conditions is correctly, cared for unit help arrives, including the monitoring of airway, breathing and heart beat, the control of pain, hydration and maintenance of body temperature 6.5. A real or simulated casualty with severe injuries in a remote situation is correctly cared for, including the preparation for transport 6.6. ***First aid resources and emergency equipment*** required for remote area situations is correctly identified and used in real or simulated situations in accordance with established first aid procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. First aid Care on board a vessel may need to be provided in situation involving :	1.1. Acute illness or injury 1.2. Laceration, abrasion and a deep puncture wounds 1.3. Respiratory failure and breathing difficulty 1.4. Shock as a result of severe injury 1.5. Abdominal, pelvic and chest injuries 1.6. Fractures of limbs 1.7. Poisoning, bites and stings 1.8. Sprains, strains and dislocations 1.9. Facial, ear and eye injuries 1.10. Suspected head, neck and back injuries
2. Conditions requiring special first aid procedures include	2.1. Explosion injuries 2.2. Burns 2.3. Poisons and envenomation 2.4. Hypothermia and hyperthemia
3. First aid resources and equipment include	3.1. Vessels/ medicine cabinet 3.2. First aid boxes 3.3. Emergency first aid carry bags 3.4. Specific first aid resources 3.5. Roller bandages 3.6. Triangular bandages 3.7. Face masks 3.8. Cleaning swabs 3.9. Cleaning brush 3.10. Cleaning materials 3.11. Medicines 3.12. Vessel’s Medicine Cabinet 3.13. First Aid Boxes 3.14. Emergency first aid carry bags

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate : 1.1. Performed immediate life saving first aid 1.2. Recognized the symptoms and signs of acute illness and or injury and take appropriate action 1.3. Managed wounds and bleeding 1.4. Managed burns 1.5. Managed bone, joints and muscle injuries 1.6. Adapted first aid procedures for remote situation 1.7. Communicated effectively with others during provision of first aid. 1.8. Prepared report on first aid situations and activities in accordance with company and regulatory requirements
2. Underpinning knowledge and attitude	2.1. Duties and responsibilities of the designated first aid officer on board a vessel 2.2. Knowledge on ways in which disease can spread on board a vessel and ways of preventing the spread 2.3. Legal issues related to administration of drugs and medicines on board a vessel 2.4. Knowledge of body structures and functions relevant to possible injury, illnesses and disease that may be encountered on board a vessel 2.5. Maritime communication techniques related to health care and receiving radio medical advice form shore based advisers 2.6. Marine publications containing information on first aid and medical treatment on board a vessel
3. Underpinning skills	3.1. Medical first aid procedures 3.2. Procedures for conducting an initial patient first aid treatment 3.3. Managing injuries and medical emergencies 3.4. Managing medicine resources 3.5. Techniques for care of wounds 3.6. Correct methods of Expired Air Resuscitation (EAR), External Cardiac Compression (ECC) and Cardio Pulmonary Resuscitation (CPR)
4. Resource implications	The following resources must be provided: 4.1. Work place location 4.2. Tools and equipment appropriate to schedule housekeeping activities and to monitor and maintain working condition 4.3. Material relevant to the proposed activity and tasks
5. Method of assessment	Competency must be assessed through : 5.1. Demonstration and questioning of related underpinning knowledge 5.2. Written Examination 5.3. Portfolio
6. Context for assessment	6.1. Competency may be assessed in workplace or in a simulated workplace setting 6.2. Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : **PROTECT MARINE ENVIRONMENT**

UNIT CODE : **MTM834205**

UNIT DESCRIPTOR : This unit identifies the competence required to protect marine environment. It involves the development of awareness to preserve and protect marine environment.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Identify garbage disposal procedures	1.1. Relevant ***guidelines for the implementation of garbage disposal onboard*** are identified and applied to ensure protection of marine environment 1.2. Relevant company requirements on marine environmental protection is followed as per established practice 1.3. Appropriate ***measures to prevent operational pollution*** are observed and applied to prevent pollution of the marine environment in accordance with regulations and procedures 1.4. Compliance on state / territory garbage disposal procedures for the protection of the marine environment is monitored and required action is taken where incidences of non-compliance are identified
2. Perform garbage segregation	2.1. MARPOL Regulations and procedures concerning protection of marine environment are adequately followed regarding segregation of garbage 2.2. Marine environment protection programs on board are applied as per established practice 2.3. Any breach of regulations and procedures concerning protection of the marine environment are identified and associated actions are taken in accordance with regulatory requirement and procedures 2.4. Deck rating are provided with necessary information and training to ensure compliance with regulations and procedures for the protection of marine environment
3. Record garbage segregation	3.1. Others are assisted and encouraged to observe the garbage segregation policies 3.2. Social responsibilities in garbage disposal are observed and performed to ensure protection of marine environment 3.3. Contents of report on garbage segregation and disposal are adequately filled-up as per established procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Guidelines for the implementation of garbage disposal onboard	1.1. Incineration option for shipboard generated garbage 1.2. All kinds of victual, domestic and operational waste excluding fresh fish and parts thereof 1.3. Garbage for which there is a total prohibition on discharge into the sea
2. Measures to prevent operational pollution by garbage	2.1. All plastic including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags 2.2. Disposal of any materials regulated by Annex V (Garbage) 2.3. Fixed floating flat form engaged in exploration and associated offshore processing of seabed mineral resources 2.4. Disposal into the sea of food wastes may be permitted when they have been passed through comminuter or grinder for such fixed or floating plat forms
3. Contents of the report on garbage segregation and disposal include	3.1. Report must be sent to the nearest coastal state 3.2. Contents of report must include 3.2.1. Name of Ship, call sign and flag 3.2.2. Type of Ship and Tonnage 3.2.3. Cargo carried 3.2.4. Date in Time 3.2.5. Position, Course, Speed at time of incident 3.2.6. Radio Channel Guarded

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate : 1.1. Exhibited all required safety environmental and garbage control procedures 1.2. Performed garbage segregation and proper disposal 1.3. Complied with existing company regulations and relevant MARPOL regulation 1.4. Assisted in incineration procedures 1.5. Communicated effectively with other concerning measures to protect the marine environment
2. Underpinning knowledge and attitude	2.1. Knowledge of sections of relevant regulation on garbage segregation and disposal 2.2. Safety, environmental and hazard control precautions and procedures relevant to MARPOL regulations 2.3. Storage of non-bio-degradable materials onboard 2.4. Relevant ISM regulations
3. Underpinning skills	3.1. Procedures for checking garbage coding on garbage segregation 3.2. Procedures for the disposal of food waste based on relevant MARPOL regulation 3.3. Procedures on ship-generated waste on non bio-degradable materials
4. Resource implications	The following resources must be provided: 4.1. Work place location 4.2. Tools and equipment appropriate in protecting marine environment 4.3. Material relevant to the proposed activity and tasks
5. Method of assessment	Competency must be assessed through : 5.1. Demonstration and questioning of related underpinning knowledge 5.2. Written Examination 5.3. Portfolio
6. Context for assessment	6.1. Competency may be assessed in workplace or in a simulated workplace setting 6.2. Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : **COMPLY WITH EMERGENCY PROCEDURES**

UNIT CODE : **MTM834206**

UNIT DESCRIPTOR : This unit involves the knowledge, skills and attitude to take appropriate initial action on becoming aware of an emergency on board a vessel and to follow established emergency response procedures.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Take action on becoming aware of an emergency	1.1. ***Emergencies*** are correctly recognized and identified 1.2. Response to an emergency situation follows established vessel's emergency response procedures 1.3. Correct action is taken on discovery of an actual or potential emergency in accordance with established vessel procedures 1.4. Information given on raising alarm is prompt, accurate, complete and clear
2. Follow established emergency procedures	2.1. Vessel's ***contingency plans*** for emergency response are known and are implemented in real and simulated emergency situations 2.2. Escape routes and internal and external communications and alarm systems are correctly used in real and simulated emergency situations in accordance with regulatory requirements and established procedures 2.3. Emergency communications and alarm signals and systems are understood and required action implemented in accordance with emergency procedures and regulatory requirements 2.4. Planned damage controls procedures for dealing with damage to the vessel and its hull are implemented in accordance with company procedures and regulatory requirements
3. Follow procedures for the use of various life saving appliances	3.1. Participation in life saving drills confirms readiness to correctly carry out life saving procedures and use life saving appliances 3.2. ***Survival equipment*** are correctly used in the event of emergencies 3.3. Procedures for the use of various shipboard life saving appliances are followed in accordance with regulatory requirements, manufacturers instruction and company procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Emergencies	1.1. Collision with another vessel 1.2. Explosion on board vessel 1.3. Impairment of integrity of hull and ingress of water 1.4. Loss of steering control 1.5. Loss of motive power 1.6. Foundering 1.7. Grounding 1.8. Beaching a vessel 1.9. Person overboard 1.10. Rescue and evacuation of injured personnel
2. Survival equipment	2.1. Life jackets 2.2. Exposure and immersion suits 2.3. Survival crafts
3. Contingency Plans	3.1. Contingency Plan in controlling fire or explosion emergency 3.2. Use of appropriate fire fighting equipment and techniques such as various types of fire extinguishers, fire blankets, fire hoses and nozzles and foam applicators 3.3. Activation of fixed fire fighting sprinklers and systems 3.4. Removal of fuel or heat source 3.5. Boundary cooling techniques 3.6. Contingency Plan in controlling flooding emergency 3.7. Use of softwood wedges and plugs to reduce water ingress 3.8. Erection and application of vertical shoring 3.9. Construction and fitting of a leak-stopping mat 3.10. Temporary repair of a ruptured pressurized pipe 3.11. Operation of a portable salvage pump

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate : 1.1. Took appropriate action in the event of discovering a shipboard emergency 1.2. Followed vessel's contingency plans for emergency response 1.3. Followed procedures for the use of various life-saving appliances 1.4. Implemented damage control following a shipboard emergency in accordance with instructions 1.5. Identified typical problems that may occur during a shipboard emergency and take appropriate action 1.6. Communicated effectively with others during shipboard emergencies 1.7. Participated in drills to prepare shipboard personnel to implement emergency response
2. Underpinning knowledge and attitude	2.1. Knowledge of relevant maritime regulations 2.2. Navigational emergencies for vessels and appropriate action and solutions 2.3. Indications of various types of emergency situations and the action to be followed when various types of actual or potential emergency situations are identified 2.4. Emergency alarm signals and systems in use on vessels and procedures to be followed when an emergency alarm is raised 2.5. Escape routes and internal and external communications systems and alarms on board a vessel 2.6. General principles of damage and control and the manner in which watertight integrity of hull is maintained on a vessel, including the importance of preparation, control and repair 2.7. Ways of controlling damage during a flooding emergency, including the use of various shipboard items that can be used for damage control purposes such as mattresses, canvas and clothing 2.8. Maritime communication techniques used during navigational emergencies
3. Underpinning skills	3.1. Taking initial action during real and simulated emergency situation 3.2. Implementing emergency during a real and simulated emergency situations 3.3. Identifying and evaluating problems that may occur during a shipboard emergency and determining appropriate courses of action 3.4. Applying safety and life saving precautions and procedures

	during emergency situations on board vessel 3.5. Participating in drills aimed at preparing shipboard personnel to implement emergency response plans
4. Resource implications	The following resources must be provided: 4.1. Work place location 4.2. Tools and equipment appropriate to schedule housekeeping activities and to monitor and maintain working condition 4.3. Material relevant to the proposed activity and tasks
5. Method of assessment	Competency must be assessed through : 5.1. Demonstration and questioning of related underpinning knowledge 5.2. Written Examination 5.3. Portfolio
6. Context for assessment	6.1. Competency may be assessed in workplace or in a simulated workplace setting 6.2. Assessment shall be observed while task are being undertaken whether individually or in-group

CORE COMPETENCIES

UNIT OF COMPETENCY : **OPERATE A VESSEL OF UP TO 3.0 GT**

UNIT CODE : **AGR641304**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to prepare, operate, maintain, store and secure vessels of up to 3.0 Gross Tons within range of ready assistance and isolated from heavy boating traffic and navigational hazards. The operation is restricted to the basic use, maneuvering and loading of the vessel, but not the interaction of the vessel with boat traffic or other hazards.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare the small vessel for use	1.1 Planned work activities accord with enterprise policies and procedures. 1.2 ***Factors*** that may compromise vessel safety are identified and addressed in the ***work plan*** and the operation of the vessel. 1.3 All essential ***safety equipment and spares*** required for area of operation and intended work are checked for presence and serviceability. 1.4 Vessel is loaded in accordance with manufacturer's specifications and enterprise procedures. 1.5 Documentation is accomplished, per government regulations and policies
2. Operate and maintain a small vessel	2.1 Vessel stability is maintained within safety limits by establishing a low centre of gravity and securing and stowing ***loads.*** 2.2 Vessel is operated at all times according to ***government requirements*** and enterprise procedures and in area of operation confined to ***limits*** of restricted area. 2.3 Vessel is ***maneuvered*** safely using appropriate means to complete planned work ***tasks.***
3. Store and secure a small vessel and equipment	3.1 Vessel is secured, ***maintained*** and stored after use according to enterprise procedures. 3.2 Perishables and fuels are stored to minimise wastage, spoilage, environmental and fire hazards. 3.3 Unserviceable equipment and spares are repaired or removed for repair or replacement according to enterprise procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Factors	1.1 sea condition: 1.2 wave height 1.3 chop 1.4 effect of current direction on wave height visibility: 1.4.1 fog 1.4.2 smog 1.4.3 rain 1.5 low light conditions 1.6 operational limits 1.7 navigational hazards 1.7.1 fire 1.7.2 Seaworthiness
2. Work plan:	ability to make safe havens: 2.1.1 mother ship 2.1.2 shore 2.1.3 alternative sources of propulsion ability to remove water from the vessel by: bailing hand or bilge pump removing the drainage plug while in dry dock ability to use alternative steering ability to interpret weather forecasts ability to initiate typhoon evasion
3. Safety equipment and spares:	3.1 communications equipment 3.2 bailing or bilge pumping arrangements 3.3. fire extinguishers 3.4 personal floatation devices 3.5 alternative sources of propulsion and steering 3.6 anchoring devices 3.7 bilge removal systems 3.8 distress signalling devices: including flares, flags, signalling mirrors, other methods 3.9 water 3.10 tools and spare parts 3.11 torch and batteries.
4. Loads:	4.1. distribution and securing procedures 4.2 passengers 4.3. catch 4.4 cargo: 4.4.1 fishing gear 4.4.2 diving equipment 4.4.3 oyster farm equipment 4.4.4 aquaculture nets and gear 4.4.5 stock feed 4.5 monitoring equipment.

VARIABLE	RANGE
5. Limits:	5.1 distance from supervision 5.2 distance from safe haven 5.3 operational limits (Municipal or City waters) 5.4 speed limits 5.5 sectors 5.6 proximity to dangers 5.7 range of fuel tank
6. Maneuvered:	6.1 using propulsion motor 6.2 using outboard motor 6.3 using oars 6.4 using sails 6.5 alternative steering.
7. Tasks:	7.1 maneuvering in confined areas or heavy seas 7.2 towing 7.3 approaching a beach or landing 7.4 recovering person overboard 7.5 Search and Rescue (SAR)
8. Maintained:	by controlling: 8.1 corrosion 8.2 hull fractures and fatigue 8.3 hull damage 8.4 cleanliness
9. Government requirements:	9.1 Relevant Philippine Government legislation, regulations and orders related to the maneuvering of vessels (including pertinent Marina regulations and related memoranda)

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1 maneuvered a small vessel while engaged in common tasks 1.1.1 ensured the vessel remains within operational limits. 1.1.2 Assessment must confirm knowledge of: 1.2 effect of overloading and poor stability practices 1.3 effect of sea state on vessel performance 1.3.1 pre-operational checks of propulsion system, dinghy and safety equipment.
2. Underpinning Knowledge and Attitudes	2.1 Relevant Marina regulations and related memoranda 2.2 Vessel loading specifications and the location of this information 2.3 Rules of the Road and Collision Regulations (COLREG)
3. Underpinning Skills	3.1 Manoeuvring small vessels using a range of propulsion techniques 3.1.1 Sea survival, fire fighting and first aid techniques. 3.1.2 Literacy skills used for: 3.2 reading manufacturer's operational and loading specification and the use by date of flares 3.3 reading manufacturer's period of validity of pyrotechnics.
4. Resource Implication	The following resources must be provided: 4.1 fully operational vessel powered by any propulsion motor.
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **MONITOR CONDITION AND SEAWORTHINESS OF A VESSEL UP TO 3.0 GT**

UNIT CODE : **AGR641305**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to monitor the condition and seaworthiness of a vessel up to 3.0 GT, including an awareness of the fundamental principles of vessel construction and regulatory requirements for seaworthiness. It also includes the ability to identify indications of any deterioration in the hull.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Monitor the condition of the vessel	1.1. Work to monitor condition and ***seaworthiness of the vessel*** is planned and carried out in accordance with government and company procedures and safety regulations 1.2. Coverage and frequency of checks and inspections on the vessel complies with the standard procedures 1.3. Checks of the integrity of the vessel's hull are correctly carried out including the use of a testing tank equipment where required 1.4. ***Action taken*** in anticipation of environmental changes is timely and appropriate to the change 1.5. Precautions are taken to ensure that vessel's powered equipment is operated in accordance with manufacturer's instructions and regulations
2. Rectify identified problems with the condition of the vessel	2.1. Any deterioration of the vessel's hull or structure is examined and reported and recorded and appropriate action is initiated to fix the identified problem 2.2. ***Repairs*** and corrosion control are initiated and coordinated in accordance with standard procedures and manufacturer's instructions 2.3. Communication with owners concerning the condition and seaworthiness of the vessel and related action is clear, concise and made at an appropriate time and place 2.4. Records on problems identified and actions taken to carry out repairs and corrosion control and to ensure watertight integrity are complete, accurate and comply with requirements.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Seaworthiness of a vessel must be maintained:	1.1. by day or night in both normal and emergency situations 1.2. under any possible conditions of sea, weather and loading 1.3. while underway 1.4. during berthing and unberthing operations 1.5. while anchoring or mooring 1.6. during dead on water (drifting) 1.7. at all times when the vessel is at operational status
2. Action taken to monitor the condition and seaworthiness of a vessel will depend on the limits of responsibility of the person concerned and may include:	2.1. routine inspections 2.2. checks prior to departure 2.3. checks on completion of a voyage 2.4. checks on completion of maintenance activities 2.5. checks in anticipation of a change in sea and weather conditions 2.6. use of testing equipment to check watertight integrity 2.7. checks during an emergency which may have caused damage or changes to the seaworthiness of the vessel
3. Repairs and maintenance procedures for a vessel will depend on the limits of responsibility of the person concerned and may include:	3.1. repairs to equipment, components, hull and vessel's structure 3.2. surface preparation and painting (routine deck maintenance) 3.3. underwater inspection to determine marine growth in the hull 3.4. lubrication 3.5. replacement of faulty equipment or components 3.6. inspection/repair of main propulsion
4. Documentation:	4.1. procedures for monitoring of the condition and seaworthiness of vessel 4.2. vessel and equipment manufacturer's instructions, specifications and recommended procedures 4.3. maintenance schedules and records 4.4. instructions of Philippine maritime authorities related to the seaworthiness of vessels 4.5. vessel's license to operate
5. Government and international requirements:	5.1. Relevant Philippine Government legislation, regulations and orders and international requirements related to the monitoring of the seaworthiness of vessels

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate: 1.1. Monitored and evaluated the condition and seaworthiness of a small vessel under normal and emergency situations 1.2. Identified any deterioration of the vessel's hull, structure or equipment 1.3. Took appropriate preventative and remedial action to maintain the security and watertight integrity of the vessel's hull 1.4. Initiated and coordinated maintenance, repair or replacement of faulty or damaged equipment or vessel's structure in accordance with company procedures and manufacturer's instructions 1.5. Exercised all required safety, environmental and hazard control precautions and procedures during inspection and maintenance operations 1.6. Communicated effectively with others when taking action to maintain the seaworthiness of the vessel
2. Underpinning Knowledge and Attitudes	2.1 Relevant Marina regulations and related memoranda 2.2 Relevant OH&S legislation and policies 2.3 Procedures for the checking and inspecting a vessel's seaworthiness 2.4 The principle stresses which act on the structure of a vessel 2.5 Principles and procedures to ensure the watertight integrity of a vessel's hull in both normal and emergency situations 2.6 Damage control measures that may be required to maintain the integrity of the hull in a range of typical emergency situations that could occur on a small vessel 2.7 Procedures for the implementation of repair and maintenance program 2.8 Corrosion control measures including surface preparation and painting and antifouling 2.9 Safety, environmental and hazard control precautions and procedures relevant to inspection and maintenance operations 2.10 A basic understanding of the materials used in vessel construction 2.11 Construction, layout and subdivision requirements of various types of small vessels, including an understanding of freeboard and bulkhead deck, watertight compartments, watertight compartments and the bulkhead of the vessel 2.12 Records that must be maintained concerning the seaworthiness of a vessel 2.13 The safe working limits of rigging and gear and other working equipment
3. Underpinning Skills	3.1 Conducting checks of seaworthiness of vessel 3.2 Taking relevant safety precautions 3.3 Literacy skills used for: 3.3.1 Reading and interpreting regulations and vessel and equipment manufacturer's instructions 3.3.2 Communicating with crew members during checks of a vessel's seaworthiness.

4. Resource Implication	The following resources must be provided: 4.1 fully operational vessel, and or 4.2 appropriate simulations of checking the seaworthiness of a small vessel
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio (Updating of SOLAS Certificate)
6. Context of Assessment	6.1 Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **PERFORM ROUTINE MAINTENANCE TASKS ON A SMALL COASTAL VESSEL**

UNIT CODE : **AGR641306**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to perform routine remedial, preventative and survey deck maintenance on coastal vessels. This includes carrying out basic deck maintenance, cleaning tasks, marine painting and checks on deck machinery and systems.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Perform basic deck maintenance	1.1. Checks of deck surfaces are carried out in accordance with planned ***maintenance*** system 1.2. Any ***deterioration or corrosion of a vessel's deck surfaces*** is identified and appropriate maintenance action initiated or carried out in accordance with planned maintenance system 1.3. Minor faults and imperfections in painted surfaces are repaired in accordance with procedures 1.4. Weathered surfaces are restored using cleaners and liquid abrasives in accordance with OH&S and pollution control requirements, planned maintenance procedures and manufacturer's instructions 1.5. Tools and equipment are correctly identified and used in accordance with OH&S requirements, company procedures and equipment manufacturer's instructions 1.6. Marine surfaces are prepared for the application of the required marine coating 1.7. Maintenance materials are obtained, handled, prepared and applied in accordance with OH&S and pollution control requirements, company procedures and manufacturer's instructions 1.8. Records of maintenance work carried out are completed in accordance with procedures
2. Carry out cleaning activities	2.1. Appropriate chemicals, cleaning agents and equipment are selected to clean an assigned area of the vessel 2.2. Manufacturer's warning and instructions regarding the use of chemicals and cleaning agents are read, understood and applied
3. Carry out cleaning activities (continued)	3.1. Cleaning tasks are completed in the assigned area in accordance with procedures and manufacturer's instructions 3.2. Chemicals, cleaning agents and equipment are correctly stored after use

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
4. Select and apply appropriate paint systems for areas aboard a vessel	4.1. Appropriate paints and painting equipment for a particular surface are selected in accordance with planned maintenance procedures and the paint manufacturer's instructions 4.2. Marine paints are applied using appropriate application equipment in accordance with OH&S requirements, planned maintenance procedures and manufacturer's instructions 4.3. Problems in the application of paints are identified and reported and/or appropriate remedial action initiated 4.4. Debris from maintenance activities is disposed of, or stored, in accordance with established procedures 4.5. Paint and painting equipment are correctly stored after use
Check and perform basic maintenance on deck fittings, equipment and systems	4.6. ***Tools and equipment for basic maintenance*** are correctly identified and used in accordance with OH&S requirements, planned maintenance procedures and equipment manufacturer's instructions 4.7. Maintenance materials are obtained, handled, prepared and applied in accordance with OH&S and pollution control requirements, company procedures and manufacturer's instructions 4.8. Defective deck fittings, equipment and systems are identified and reported, repaired and/or replaced as required by planned maintenance procedures 4.9. Maintenance equipment is correctly cleaned and stored after use 4.10. Debris and unused materials are disposed of or returned to store in accordance with OH&S and pollution control requirements, planned maintenance procedures and manufacturer's instructions
5. Follow safety and hazard control procedures	5.1. Personal protection equipment (PPE) is used in accordance with regulations and OHS policy 5.2. Maintenance hazards are identified and action is taken to minimize or eliminate risk to personnel, ship and the environment 5.3. Safety, hazard minimization and pollution control procedures and regulations are followed at all times during maintenance and repair operations 5.4. Where relevant, procedures and precautions necessary for entry into confined spaces on a vessel, after authorization by a responsible officer, are correctly followed

RANGE OF VARIABLES

VARIABLE	RANGE
1. Maintenance of a vessel may be carried out:	1.1. while underway 1.2. when berthed or moored 1.3. when slipped or in dry dock
2. Maintenance may include:	2.1. identification of any deterioration of a deck areas, machinery and fittings 2.2. cleaning of areas of the vessel 2.3. repairs of minor faults and imperfections in painted surfaces 2.4. identification of faulty equipment or fittings and arranging for repair or replacement 2.5. restoration of weathered surfaces 2.6. preparation of marine surfaces prior to the application of the prescribed marine coating 2.7. selection and application of appropriate marine paints for particular surfaces
3. Maintenance tools and equipment may include:	3.1. hand tools including chipping hammers and scrapers 3.2. electric power tools such as grinders, sanders and drills, 3.3. pneumatic power tools such as grinders, sanders and drills 3.4. marine preservative finish application equipment such as brushes, spay guns, rollers 3.5. rinsing and storing equipment 3.6. personal protection clothing and equipment such as: 3.6.1. eye and ear protection 3.6.2. safety boots 3.6.3. dust and fume masks including various cartridges
4. Deterioration of vessel's deck areas, machinery and fittings may include:	4.1. corrosion to deck, fittings and equipment 4.2. weathering of surfaces 4.3. wearing of fittings and equipment
5. Documentation:	5.1. planned maintenance system or other preventative maintenance scheme 5.2. maintenance records 5.3. vessel and equipment manufacturer's instructions, specifications and recommended procedures 5.4. instructions of Philippine maritime authorities
6. Government and international code requirements:	6.1. Relevant Philippine Government legislation, regulations and orders and international codes related to routine maintenance on coastal vessels (including pertinent Marina regulations and related memorandums).

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1. Performed basic deck maintenance 1.2. Carried out cleaning activities 1.3. Selected and applied appropriate paint systems for areas aboard a vessel 1.4. Checked and performed basic maintenance on deck fittings, equipment and systems 1.5. Exercised all required safety, environmental and hazard control precautions and procedures during planned maintenance operations 1.6. Communicated effectively with others when carrying out maintenance procedures onboard a vessel
2. Underpinning Knowledge and Attitudes	2.1. Relevant Marina regulations and related memorandums 2.2. Relevant OH&S regulations and policies 2.3. Procedures for the checking the deck areas, machinery and fittings of a vessel as part of planned routine maintenance procedures 2.4. The nature and causes of corrosion of marine surfaces and structures and the available methods for its control 2.5. Corrosion control measures including surface preparation and painting and antifouling 2.6. Paints and painting equipment used in marine maintenance and the related procedures and precautions to be taken for preparation, application and storage 2.7. Safety, environmental and hazard control precautions and procedures relevant to planned maintenance operations 2.8. Procedures for the disposal of debris and waste during planned maintenance s 2.9. Storage principles of paints, chemicals and cleaning agents used in planned maintenance operations 2.10. Procedures for the correct entry into a confined space onboard a vessel including OHS precautions, testing of unknown atmospheres, use of a confined space entry permit, and procedures as defined in the Safety Management System (where required) or in industry standards and guidelines. 2.11. Principle features of the structure of vessels 2.12. A basic understanding of the materials used in vessel construction 2.13. Construction, layout and subdivision requirements of a typical vessel, including an understanding of freeboard and weather deck, watertight compartments, weathertight compartments, the bulkhead of the vessel and collision bulkhead 2.14. Maritime communication techniques needed during slipping and maintenance 2.15. Problems related to planned maintenance systems for deck areas, machinery and fittings and appropriate action and solutions 2.16. Deck maintenance records that must be maintained on a vessel

3. Underpinning Skills	3.1. Carrying out all required routine maintenance procedures 3.2. Taking required precautions when carrying out all required routine maintenance procedures 3.3. Literacy skills used for: 3.3.1 reading and interpreting regulations and vessel and equipment manufacturer's instructions 3.3.2 communicating with other crew members during routine maintenance operations.
4. Resource Implication	The following resources must be provided: 4.1. fully operational vessel, and or 4.2. appropriate simulation of routine maintenance operations required on a coastal vessel
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation/demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **OPERATE AND TROUBLESHOOT LOW POWERED MARINE ENGINES**

UNIT CODE : **AGR641307**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to routinely operate low powered diesel engines within normal parameters. It also covers the skills required to locate causes of trouble in performance and make minor repairs.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Initiate start up and shut down operations of low powered diesel engines	1.1 ***Operations*** are planned and carried out according to established ***safety rules and regulations***
	1.2 Timing and degree of preparation of engine and systems is appropriate to the intended operation and complies with operating instructions
	1.3 Sequence and timing of start up and shut down of engine and systems meets the requirements for safe and efficient operation
	1.4 ***Engine parameters*** and instrument readings are maintained within defined levels during start up and shut down operations
	1.5 Deviations from the norm are promptly identified, rectified and reported
	1.6 Adjustments made achieve a safe, efficient and environmentally responsible operation and are within the role holder's responsibility
	1.7 Sufficient notice of operations is given to enable other relevant personnel to carry out their responsibilities safely and efficiently
	1.8 Inability to start up or shut down engine as required is reported promptly and accurately to an appropriate authority
2. Maintain output of low powered diesel engines	2.1 Operations are planned and carried out according to established safety rules and regulations
	2.2 Engine is ***monitored*** according to ***schedules*****,** operating parameters and instructions
	2.3 Engine system condition is assessed accurately in light of information available from local and remote indicators and physical inspection
	2.4 Engine output meets notified demand conditions throughout normal operation
	2.5 Engine parameters are maintained within defined limits during normal running
	2.6 Sequence and timing of adjustments to engine is that required for optimum safety and efficiency in achieving the desired condition

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
3. Respond to irregularities	3.1 Deviations from the norm are correctly identified, rectified and reported. 3.2 ***Action taken in the event of irregularities*** is appropriate to their significance and optimises the safety and efficiency of operations.
4. Troubleshoot engine faults and perform minor repair	4.1. Operating difficulties caused by fuel-related factors are identified and rectified where possible according to troubleshooting guides and manufacturers instructions 4.2. Electrical faults are identified and rectified according to troubleshooting guides and manufacturer's instructions 4.3. Engines that were immersed are serviced according to manufacturer's instructions 4.4. Propulsion faults are identified and repaired according to manufacturer's instructions

RANGE OF VARIABLES

VARIABLE	RANGE
1. Operations:	1.1. start up and shut down of engine as a routine with the system functioning correctly 1.2. emergency shut down to minimize damage 1.3. operate under direct instruction for malfunctioning engine system 1.4. manual adjustment of controls to correct minor deviation 1.5. monitoring of remote operation 1.6. fuelling and lubrication requirements are met.
2. Safety rules and regulations:	2.1. code of safe working practices 2.2. enterprise's occupational health and safety procedures. 2.3. engine shutdown at prescribed distance form destination or when approaching another vessel
3. Engine:	3.1. Marine diesel engines (16 to 80 HP) burning diesel oil or marine diesel oil as the power source for the propulsion of the vessels, the power source for an auxiliary system; with shifting gears 3.2. Gasoline engines (3 to 16 HP) burning gasoline as the power source for the propulsion of the vessels, the power source for an auxiliary system; no shifting gear feature 3.3. Converted automobile truck gas / diesel engines (transmission converted to reduce rpm) 3.4. One-stroke 3.5. 2-stroke
4. Parameters	4.1. pressure 4.2. levels 4.3. flow 4.4. temperature 4.5. speeds
5. Monitoring:	5.1. frequency 5.2. scope 5.3. timing 5.4. checks 5.5. tests 5.6. inspections 5.7. fuel requirements (including energy efficiency) 5.8. noise 5.9 oil or fuel leaks.
6. Schedules:	6.1. parameters and instructions 6.2. manufacturers' information 6.3. enterprise requirements 6.4. onboard management requirements.
7. Action to be taken in the event of irregularities	7.1 informing authority 7.2. appropriate investigative techniques and safety procedures 7.3 fuel and lubrication transfer contained and disposed meeting International Convention for the Prevention of Pollution from Ships (MARPOL) requirements
8. Troubleshooting includes:	8.1. Fuel related factors 8.2. Checking fuel level 8.3. Checking injector pump 8.4. Bleeding injector pump, if appropriate (for diesel engines only)

VARIABLE	RANGE
	8.5. Checking fuel filter if clean 8.6. Checking if carburetor is jammed 8.7. Electrical factors 8.8. Checking ignition system (contact point, CDI) 8.9. Cleaning and drying spark plugs 8.10. Propulsion faults 8.11. Checking connecting rod for breach
9. Documentation:	9.1. motor manufacturer's instructions and recommended procedures 9.2. instructions of Philippine Maritime Authorities
10. Government and international code requirements:	10.1. Relevant Philippine Government legislation, regulations and orders and international codes related to the maneuvering of coastal vessels (including pertinent Marina regulations and related memorandums). 10.2. EO 305, Devolution of Registration of Municipal Fishing Vessels to LGUs 10.3. Fishing boat license requirements 10.4. Requirements for license to operate within municipal waters 10.5. Licensing of fishing gear requirements 10.6. Licensing of fishermen requirements

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1 Operated, started up and shut down low powered diesel engines and responded appropriately to irregularities 1.2 Ensured that preparations for the operations are complete 1.3 Started up, shut down, monitored and operated engines in a safe manner 1.4 Maintained steady running of the engine and complied with alarm acceptance procedures 1.5 Carried -out adjustment and regulation of engine, including to achieve optimal fuel efficiency 1.6 Carried out alteration of output as required. 1.7 Performed troubleshooting of engine faults and minor repair
2. Underpinning Knowledge and Attitudes	2.1 Relevant Marina regulations and related memorandums 2.2 Engine and system operating instructions 2.3 Operating parameters and values 2.4 Alarm and emergency shut down parameter values 2.5 Different types of diesel engines and their variations likely to be encountered 2.6 Method of operation of control systems 2.7 Optimizing fuel efficiency 2.8 Procedures relating to: 2.9 Sequence and timing of operations and adjustments 2.10 Response to alarms and emergencies affecting engines including contingency plans 2.11 Fuel isolation procedures and likely hazards. 2.12 Principles relating to: 2.12.1 operation of marine diesel engines sufficient to recognize malfunction, implement initial corrective action and seek advice 2.12.2 engineering science to appreciate the reasons for the method of safe operations.
3. Underpinning Skills	3.1 Operating high, medium and slow speed diesel engines including the associated systems: 3.2 fuel, such as diesel oil/marine diesel oil 3.3 cooling 3.4 lubrication 3.5 purification, transfer and storage 3.6 control 3.7 starting and stopping 3.9 battery power generation and use. 3.9 Carrying out the start up from both warm and cold conditions to standby or full operating condition including pre- and post-start up checks 3.10 Carrying out emergency shut down and normal shut down for short and long term periods including checks and isolation to organizational requirements 3.11 Operating the engine in various modes including: 3.12 Monitoring and setting restrictions on remote operation 3.13 Local manual operation 3.14 Emergency modes of operation

	3.15 Monitoring aspects of the engine and system condition including: 3.15.1 pressure 3.15.2 flows 3.15.3 temperatures 3.15.4 levels 3.15.5 speeds 3.15.6 vibrations 3.15.7 expansion 3.15.8 emissions 3.15.9 abnormalities. 3.15.10 fuel efficiency 3.15.11 fuel or oil leaks 3.15.12 noise
4. Resource Implication	The following resources should be provided: 4.1 fully operational low powered diesel engine on a small vessel, and or 4.2 a low powered diesel engine in a suitably simulated vessel situation
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **APPLY WEATHER INFORMATION WHEN NAVIGATING A VESSEL**

UNIT CODE : **AGR641308**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to predict meteorological and ocean conditions and apply them to ensure the safe navigation of a coastal vessel, including deciphering and applying information obtained from observations, reports and instruments, reliably and accurately calculating tides in accordance with official tide charts and forecasting weather for an intended near coastal voyage using all available data

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Obtain and decipher weather and oceanographic information	1.1. Ocean and weather conditions are observed and correctly interpreted in accordance with established nautical and ***meteorological*** practice 1.2. Basic measurements of meteorological parameters are correctly made and recorded using established procedures 1.3. Relevant meteorological charts, publications and related ***documentation*** are updated, stored and maintained 1.4. Relevant ***navigational*** charts, nautical publications and related documentation are used for ***voyage*** planning and identification of navigational hazards in accordance with established procedures
2. Apply weather and oceanographic data to safe navigation	2.1. Weather and ocean condition hazards relevant to a proposed coastal voyage are identified using relevant forecasts based on interpretation of meteorological observations, reports and measurements 2.2. The route for a voyage is modified as required to take into account weather and sea condition hazards in accordance with established navigational practice and operational instructions
3. Maintain records of weather and oceanographic information and forecasts	3.1. Meteorological measurements, observations, reports and forecasts are recorded and filed in accordance with company procedures and regulatory requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Voyages being planned and conducted may include:	1.1. any near coastal voyage navigable by the size and type of vessel concerned 1.2. passages through 1.3. traffic separation schemes in near coastal areas 1.4. tidal restricted areas 1.5. VTS controlled areas 1.6. pilotage water under conditions of restricted visibility
2. Navigation may occur in conditions of:	2.1 clear visibility using visual navigational techniques 2.2 restricted visibility using parallel indexing and/or electronic chart systems 2.3 clear visibility using a combination of visual and electronic techniques
3. Instruments may include:	3.1. air and sea thermometers 3.2. barometers 3.3. hydrometers 3.4. anemometers 3.5. wind strength and direction instruments 3.6. instruments for measuring sea swell height, direction and period
4. Meteorological and oceanographic parameters may include	4.1. atmospheric pressure 4.2. pressure gradient 4.3. air temperature 4.4. relative humidity 4.5. wind strength 4.6. wind direction 4.7. swell height, direction and period 4.8. visibility 4.9. cloud cover
5. Documentation:	5.1. operational orders 5.2. navigational charts of coastal waters 5.3. meteorological and oceanographic publications 5.4. coastal weather reports, charts and satellite images 5.5. annual and weekly notices to mariners 5.6. navigational warning records 5.7. vessel's log 5.8. instructions of Philippine maritime authorities
6. Government and international code requirements:	6.1. Relevant Philippine Government legislation, regulations and orders and international codes related to the manoeuvring of coastal vessels (including pertinent Marina regulations and related memorandums).

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate: 1.1. Obtained and deciphered weather and oceanographic data collected from observations, reports, charts, satellite images and instruments 1.2. Identified and evaluated weather forecasting problems and determine appropriate solutions 1.3. Accessed, used and maintained meteorological charts, meteorological publications and related weather and oceanographical documentation 1.4. Used weather forecasts to ensure safe navigation
2. Underpinning Knowledge and Attitudes	2.1. Relevant Marina regulations and related memorandums 2.2. Principles and procedures of weather forecasting using information obtained from observations, reports and instruments including: 2.2.1. cloud classifications 2.2.2. cyclones, storms and gales 2.2.3. tropical meteorology 2.2.4. ocean currents 2.2.5. weather data provided by shipboard instruments 2.2.6. sea state 2.2.7. tide prediction & use of tide tables 2.3. Basic principles and procedures for making meteorological and oceanographic measurements using appropriate instruments and interpreting and deciphering the results 2.4. Sources of weather and oceanographic reports and methods for their interpretation 2.5. Effects on navigation and shiphandling of wind, currents and bottom topography 2.6. Problems in the forecasting of weather and oceanographic information to navigation of a vessel and appropriate action and solutions 2.7. Procedures to be followed during gale conditions and cyclones including the means of securing a vessel in a cyclone mooring 2.8. Maritime communication techniques
3. Underpinning Skills	3.1. application of forecast of likely weather and oceanic conditions to the development of a typical coastal passage plan 3.2. the calculation of height and time of low and high water at locations listed in the tide tables 3.3. Literacy skills used for reading and interpreting regulations and weather information
4. Resource Implication	The following resources must be provided: 4.1. fully operational vessel, and or 4.2. an appropriate simulation
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **CONTRIBUTE TO SAFE NAVIGATION**

UNIT CODE : **AGR641309**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required in assisting the officer of the watch safely navigate the vessel or conduct a watch in sole charge of a vessel.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Contribute to monitoring and controlling a navigational watch	1.1 ***Information*** required for the exchange of a *watch* is complete, accurate and relevant to both the personnel and the existing circumstances. 1.2 Hand over and relief of the watch conforms to accepted ***principles and procedures***. 1.3 Watch information/instructions that are unclear or ambiguous are always clarified. 1.4 Lights, shapes and sound signals displayed or given conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and to instructions received. 1.5 Lookout is maintained at all times in such a manner as to conform to accepted principles and procedures. 1.6 Reports and exchanges of navigational information are clear and concise and in line with accepted principles and procedures. 1.7 Traffic, the vessel, weather watch keeping and ***hazards are monitored*** with a frequency and intensity conforming to accepted principles and procedures. 1.8 Frequency and degree of performance checks to navigational equipment complies with principles and procedures, and skipper's and owner's requirements. 1.9 Advice or clarification is sought immediately whenever in doubt and from the appropriate people.
2. Maneuver the vessel when contributing to the efficient running of the watch	2.1 ***Maneuvers*** are made so as to safely progress the planned voyage and comply fully with instructions received. 2.2 ***Engine control systems*** are operated to progress the planned passage and are designed to complement helm movements. 2.3 Course is steered steadily within acceptable limits with respect to the area of navigation and the existing ***sea state.*** 2.4 Course alterations are smooth and controlled with minimal over shoot. 2.5 Communication is clear, concise and acknowledged at all times according to accepted principles and procedures. 2.6 Steering modes are changed according to operating instructions, area, wind and sea state and according to marine notices and accepted principles and procedures. 2.7 Vessel steering systems remain within safe operating limits during normal maneuvers.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Information obtained from:	1.1 colleagues 1.2 watch keeper 1.3 skipper.
2. Watch routines to be maintained when in charge of the bridge watch::	2.1 during the day 2.2 at night 2.3 in narrow waters 2.4 in coastal waters 2.5 in severe weather conditions 2.6 in poor visibility 2.7 during pilotage or at anchor. 2.8 during the occurrence of emergencies
3. Principles and procedures as itemized in:	3.1 Marina regulations and memorandums 3.2 bridge procedures guide 3.3 enterprise procedures and standing orders
4. Hazards with respect to:	4.1. vessel position 4.2. weather and sea state 4.3. traffic and other obstructions 4.4. status of equipment and systems 4.5. bar and sea entrance crossings.
5. Monitored using:	5.1. sight 5.2. radar 5.3. sound 5.4. echo sounder
6. Maneuvers may involve:	6.1. stopping 6.2. going astern 6.3. crew overboard.
7. Engine control systems:	7.1. steering systems 7.2. throttle 7.3. gear box.
8. Sea state:	8.1. calm 8.2. rough 8.3. in a current 8.4. tidal conditions.
9. Documentation:	9.1. operational orders 9.2. navigational charts 9.3. regulations 9.4. ship’s log 9.5. vessel’s operational plan 9.6. vessel manufacturer’s instructions and recommended procedures 9.7. instructions of Philippine maritime authorities
10. Government and international code requirements:	10.1. Relevant Philippine Government legislation, regulations and orders and international codes related to the watchkeeping duties on coastal vessels (including pertinent Marina regulations and related memorandums).

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1. Manoeuvred a vessel of 3.1 GT up to 150 GT 1.1.1. safely in normal and emergency situations 1.1.2. in normal and heavy weather conditions 1.1.3. when underway 1.1.4. in berthing and unberthing operations 1.1.5. when anchoring or mooring 1.2. Exercised all required safety and hazard control procedures when manoeuvring the vessel 1.3. Identified typical manoeuvring problems and take appropriate action 1.4. Communicated effectively with others during manoeuvring operations
2. Underpinning Knowledge and Attitudes	2.1. Marina operational guidance for persons on a navigational watch 2.2. International Regulations for Preventing Collisions at Sea 2.3. bridge procedures guides 2.4. enterprise procedures 2.5. basic meteorology sufficient to recognise imminent change in the weather and assist in reading meteorological instruments 2.6. identification of sources of information 2.7. responsibilities of a look out 2.8. nautical terminology and the methods of reporting 2.9. operation of RADAR equipment 2.10. echo sounding equipment 2.11. classes of and responsibilities between vessels 2.12. give way and stand on rules 2.13. International Rules for Preventing Collisions at Sea 2.14. sound signals 2.15. distress signals 2.16. buoyage and navigation mark lights 2.17. buoyage and navigation mark sound signals and top marks sufficient for them to be recognised 2.18. emergency steering systems 2.19. use of operational controls on an auto pilot 2.20. bridge communications 2.21. occasions when convention is to seek assistance 2.22. assessing the risk of collision by sight and RADAR 2.23. use of helm and engines 2.24. emergency manoeuvres
3. Underpinning Skills	3.1. Using helm and engines 3.2. Assessing the risk of collision by sight and RADAR 3.3. Using operational controls on an auto pilot 3.4. Implementing emergency procedures 3.5. Literacy skills used for: 3.6. reading and interpreting regulations and vessel manufacturer’s instructions 3.7. communicating with other members of the bridge team.
4. Resource Implication	The following resources should be provided: 4.1. fully operational vessel, and or

	4.2. an appropriate vessel simulator
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **APPLY BASIC FOOD HANDLING AND SAFETY PRACTICES**

UNIT CODE : **AGR641310**

UNIT DESCRIPTOR : This is a core unit of competency for all sectors of the seafood industry covering food safety procedures and practices and risk management. The unit covers personal hygiene and conduct, and seafood handling and storage. This unit applies to seafood and aquatic products and is essential to all qualifications in the seafood industry.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Identify hazards and risks to seafood and aquatic product	1.1 Key ***hazards and risks*** associated with the individual's ***work area*** or area of responsibility are identified, assessed, reported and controlled using appropriate workplace procedures.
2. Follow enterprise hygiene standards, procedures and practices	2.1 Personal hygiene complies with work area and OHS requirements. 2.2 Appropriate personal protective clothing and equipment is selected, checked, used and maintained in accordance with enterprise and OHS requirements. 2.3 ***Hygiene procedures*** are strictly followed in accordance with ***enterprise, legislative*** and OHS ***requirements****.*
3. Handle and store seafood and aquatic product	3.1 ***Seafood and aquatic products*** are ***handled and stored*** in accordance with enterprise, legislative and OHS requirements. 3.2 Seafood and aquatic products are handled and stored in a manner that avoids damage, meets hygiene standards, avoids ***contamination*** and maintains the quality of the product. 3.3 Seafood and aquatic products are stored at the correct temperature required to safely maintain the product in optimal condition and freshness.
4. Follow the enterprise food safety program	4.1 All work activities undertaken are consistent with and conform to the ***requirements of an approved enterprise food safety program****.* 4.2 ***Areas of risk*** in the individual's work area within the enterprise are identified, evaluated, reported, controlled and ***monitored****.* 4.3 Corrective actions are taken within the individual's scope of responsibilities to minimize risk in accordance with the enterprise food safety program. 4.4 Risks beyond the control of the individual are promptly reported to the appropriate person(s). 4.5 Records are completed according to enterprise requirements and work responsibility.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Hazards and risks may include:	1.1 Biological 1.1.1 bacteria 1.1.2 moulds 1.1.3 yeast 1.1.4 other organisms 1.1.5 contaminants 1.2 Physical 1.2.1 broken glass, metal, plastic, fibre glass 1.2.2 foreign matter 1.2.3 sewage 1.2.4 soils, water 1.2.5 other organisms 1.2.6 temperature changes or fluctuations 1.3 Chemicals (additives, chemicals and natural poisons) 1.4 Hygiene 1.4.1 personal habits or practices (smoking, spitting, nose blowing, coughing, hand washing) 1.4.2 reporting illness 1.4.3 clothing (maintenance and laundering) 1.5 Cleanliness of equipment, apparatus, work surfaces, and containers.
2. Work areas or places include:	2.1 retail or wholesale outlet 2.2 seafood and aquatic product processing plant 2.3 fishing vessel 2.4 aquaculture operation; farm, hatchery, nursery 2.5 storage facility, dispatch, transport operation 2.6 cargo / storage areas 2.7 Fish treatening area 2.8 Fish chutes
3. Work area:	3.1 filleting area 3.2 fish cleaning area 3.3 crustacean cooking area 3.4 fish packing area 3.5 toilet/shower block and ablutions area 3.6 cool rooms 3.7 cargo / storage areas 3.8 Fish treatening area 3.9 Fish chutes
4. Enterprise standard operating procedures relating to workplace hygiene:	4.1 personal habits or hygiene 4.2 use of personal protective clothing and equipment 4.3 equipment/work area 4.4 product contamination and cross contamination.
5. Enterprise and legislative requirements:	5.1 policies and procedures 5.2 licensing requirements 5.3 regulatory requirements 5.4 industrial awards and agreements 5.5 industry codes or codes of practice.

VARIABLE	RANGE
6. Enterprise requirements:	6.1 occupational health and safety policies, procedures and programs 6.2 use of electronic communication equipment 6.3 access and equity policy, principles and practice 6.4 client service standards 6.5 communication channels and reporting procedures 6.6 company issued identification such as card, badge or pass 6.7 company policy and procedures, including personnel practices and guidelines 6.8 defined resource parameters 6.9 dress and presentation requirements 6.10 duty of care, code of conduct, code of ethics 6.11 emergency response and evacuation procedures 6.12 notification of authorities 6.13 employer and employee rights and responsibilities 6.14 policies and procedures relating to won role, responsibility and delegation 6.15 quality and continuous improvement processes and standards 6.16 records and information systems and processes 6.17 induction and refresher training manuals 6.18 pre- and post- operational checks of equipment.
7. OHS requirements may include:	7.1 relevant government occupational health and safety acts, regulations, national standards, codes of practice and guidance notes which may apply in jurisdiction 7.2 enterprise specific occupational health and safety policies and procedures 7.3 examples of specific task related procedures may include: 7.3.1 hazard identification, risk assessment and control (incorporating the hierarchy of control model) 7.3.2 accident and incident reporting 7.3.3 manual handling 7.3.4 use and storage of chemicals.
8. Seafood and aquatic product:	8.1 live seafood 8.2 seafood (fillets, whole fish, shell fish, prawns etc) 8.3 finished/processed product (smoked, dried, frozen etc) 8.4 other aquatic products: 8.4.1 shells 8.4.2 skins 8.4.3 eggs 8.4.4 aquarium fish 8.4.5 pearls 8.5 by-products.
9. Handling and storage:	9.1 to prevent damage (e.g. flesh–ripped, torn, bruised, squashed; product dropped or thrown) 9.2 appropriate to product (e.g., fillets, whole fish, shell fish, frozen, live stock) 9.3 storage at correct temperatures and in appropriate areas 9.4 includes safe use and storage of knives and tools used by the worker.
10. Cross contamination caused by:	10.1 cooked product contaminated by raw product 10.2 edible product contaminated by waste 10.3 movement of people, product or equipment between areas.
11. Requirements of an approved food safety	11.1 approved by local council or appropriate health department 11.2 risk identification

VARIABLE	RANGE
program:	11.3 identification of risk areas (control points) 11.4 minimisation of risks 11.5 monitoring risks (control points) 11.6 reporting and recording requirements 11.7 hazard analysis critical control point (HACCP) based programs, where applicable.
12. Areas of risk (control points):	12.1 harvesting, handling, transporting 12.2 purchasing, delivery and storage 12.3 preparation, processing and cooking 12.4 cooling, freezing, defrosting, heating, reheating, storage 12.5 holding or display.
13. Monitoring:	13.1 own tasks and responsibilities 13.2 recording data 13.3 by visual checks 13.4 following inspection requirements of enterprise risk management plan.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 Inspected the work area to identify common seafood and aquatic product food safety hazards and associated risks 1.2 Maintained personal hygiene and conduct to minimize risk to seafood and seafood product safety 1.3 handled and stored seafood and aquatic product safely 1.4 completed recording/reporting requirements. Assessment must confirm knowledge of: 1.5 own responsibilities within the enterprise food safety plan 1.6 key requirements of the food safety plan 1.7 sources of information on food safety and personal hygiene requirements such as enterprise standard operating procedures or codes of practice.
2. Underpinning Knowledge and Attitudes	2.1 broad knowledge of basic food safety principles and requirements 2.2 enterprise hygiene and food safety procedures 2.3 legal and regulatory requirements pertaining to seafood production, storage, handling and packaging relevant to area of work 2.4 personal hygiene practices and clothing requirements relevant to area of work 2.5 common hazards and sources of contamination in area of work 2.6 enterprise food safety recording requirements 2.7 occupational health and safety requirements.
3. Underpinning Skills	3.1. The essential skills a person needs to perform work to support the competence include: 3.1.1 identification of hazards, contaminants and risks or control points 3.1.2 handling seafood and aquatic products to prevent damage, spoilage, waste 3.1.3 storing seafood and aquatic products in appropriate areas at correct temperatures. 3.2. Literacy skills used for: 3.2.1 reading and interpreting relevant enterprise documentation including standard operating procedures and the food safety plan where available 3.2.2 recording/reporting according to enterprise procedures. 3.2.3 Numeracy skills used for: 3.2.4 recording and reporting data.
4. Resource Implication	Resources must include: 4.1 Relevant documentation (enterprise food safety plan, standard operating procedures, code of practice, personal protective equipment, documentation etc).
5. Methods of Assessment	The following assessment methods are suggested: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment. 6.2 Assessment must relate to the individual's work area or area of responsibility.

UNIT OF COMPETENCY : **ADJUST AND POSITION BEACH SEINES, MESH NETS OR GILL NETS**

UNIT CODE : **AGR641311**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to interpret gear plans and adjust beach seines and gill nets before deployment. The unit also involves maintaining, adjusting and positioning the vessel and gear during deployment, fishing and retrieval in order to optimize the catch. This unit assumes some level of familiarity with the gear and is appropriate to an experienced fisher. These fishing gears are typically used in Municipal Fisheries.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Organize a work area to adjust beach seines, mesh nets or gill nets	1.1 Unsafe and inefficient aspects of the work area are identified and rectified. 1.2 Clear instructions are provided to all crew covering the task and the methods to be used. 1.3 All tolls and equipment necessary for the completion of the task are made available when needed. 1.4 Equipment and techniques devised for slinging beach seines, mesh nets or gill nets are appropriate for planned operations.
2. Adjust beach seine, mesh net or gill net components to optimize catch	2.1 ***Criteria*** for assessing the sub-optimal performance of ***beach seines, mesh nets*** or ***gill nets*** are used to judge effectiveness. 2.2 Measurements and comparisons are made of beach seine, mesh net or gill net components to confirm symmetry. 2.3 Effectiveness of deployment of beach seine, mesh net or gill net ***components*** is assessed by comparing observed operation of components with gear plans. 2.4 Beach seine, mesh net or gill net components are adjusted, reconditioned or constructed to rectify sub-optimal gear performance.
3. Position beach seines, mesh nets or gill nets to optimize catch	3.1 Fishing strategy is developed to incorporate all relevant ***factors.*** 3.2 Catches are analyzed to determine the effectiveness of beach seines, mesh nets or gill nets. 3.3 Position of beach seines, mesh nets or gill nets is ***monitored*** and altered when necessary to optimize the catch. 3.4 Vessel position during the deployment and retrieval of beach seines, mesh nets or gill nets is monitored for the factors that contribute to a successful fishing strategy and altered as required.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Criteria:	1.1. species composition of catch 1.2. amount of catch per unit of effort 1.3. amount of catch in comparison with other vessels 1.4. degree and character ground contact 1.5. amount of debris in the net 1.6. asymmetry between each side of a net 1.7. symmetry of: 1.7.1 sweeps 1.7.2 head ropes 1.7.3 foot ropes 1.8. determining and monitoring tolerance to: 1.8.1 rips, holes and wear to netting material 1.8.2 wear of gear components 1.8.3 insecurity and distortion of hangings for net and lashings for ground gear and flotation 1.8.4 distortion of gear components 1.8.5 stretching rope 1.8.6 quality of by-catch reduction devices 1.9. absence or breakage of gear components.
2. Beach seines, mesh nets or gill nets:	2.1. beach seines 2.2. gill nets for coastal 2.3. estuarine species
3. Components:	3.1. sweeps and bridles 3.2. netting material 3.3. hangings 3.4. flotation devices 3.5. ballast 3.6. by-catch reduction devices 3.7. flags, buoys and droppers 3.8. gear detection devices 3.9. connecting devices: 3.9.1 knots 3.9.2 clips.
4. Factors:	3.1. current and tides 3.2. proximity to hook-ups 3.3. proximity of other vessels 3.4. excessive by-catch 3.5. swimming speed of target species 3.6. length of towing ground 3.7. symmetry of gear when shooting and hauling.
5. Monitored:	5.1 vertical and horizontal sweep angle 5.2 ground contact 5.3 net hauling speed and direction 5.4 visual and electronic position fixing methods 5.5 using electronic detection equipment such as lights

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1 maintained, adjusted and positioned the vessel and gear during deployment, fishing and retrieval of beach seines, mesh nets or gill nets in order to optimize the catch 1.2 kept all members of a team working efficiently and safely 1.3 described and identified the indicators of sub-optimal performance 1.4 made adjustments to all aspects of beach seining or gill netting gear to optimize performance 1.5 manoeuvred a vessel which is deploying beach seining or gill netting gear along a predetermined route 1.6 determined ground suitable for beach seining or gill net targets in response to information from various sources. Assessment must confirm knowledge of: 1.7 factors that indicate and determine beach seining or gill netting operating efficiency.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to adjust and position beach seines, mesh nets or gill nets to the required standard include: 2.1 factors that determine optimal gear performance such as: 2.2 mesh size, net material, hanging ratio 2.3 over and under spreading 2.4 satisfactory ground contact 2.5 gear symmetry 2.6 headline height 2.7 ballast and flotation 2.8 indicators of sub-optimal performance 2.9 fish behaviour characteristics.
3. Underpinning Skills	The essential skills a person needs to adjust and position beach seines, mesh nets or gill nets to the required standard include: 3.1 adjusting gear components to improve performance 3.2 using and repairing netting gear 3.3 monitoring the nature and position of benthic features and potential catches from echo sounder data 3.4 adjusting the speed and direction of the vessel to ensure the net will attain a position determined by the fishing strategy 3.5 using small vessels. Literacy skills used for: 3.6 interpreting gear plans 3.7 reading operating instructions for electronic detection equipment 3.8 reading tide tables. Numeracy skills used for: 3.9 reading and recording data obtained from electronic detection equipment.
4. Resource Implication	Resources may include: 4.1 operational beach seining or gill netting vessel with access to stocks of appropriate target species.
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	Assessment should be in a workplace. 6.1 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **MAINTAIN, PREPARE, DEPLOY AND RETRIEVE MESH NETS OR GILL NETS TO LAND CATCH**

UNIT CODE : **AGR614312**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain and prepare gill netting gear ready for deployment, and retrieve the gear to the vessel. The unit also involves the initial aspects of handling seafood specific to beach seining or gill netting operations. Repairing damaged netting is covered in "Assemble and repair damaged netting". Beach seines, mesh nets and gill nets are typically used in Municipal Fisheries.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Maintain beach seines, mesh nets or gill nets ready for deployment	1.1 ***Beach seines**, **mesh nets or gill nets** are **checked*** against established **criteria** in accordance with the vessel maintenance plan and supervisor's instructions. 1.2 Beach seine, mesh net or gill net ***components*** which are worn or damaged and lack security or symmetry are identified and either ***reconditioned*** or replaced. 1.3 Replacement beach seine, mesh net or gill net components are ordered according to enterprise procedures. 1.4 Defective beach seine, mesh net or gill net components are disposed of according to environmental protection ***regulations*** and enterprise procedures.
2. Deploy beach seines, mesh nets or gill nets to ensure operating efficiency, low environmental impact and minimal interaction with by-catch	2.1 Beach seine, mesh net or gill net components are connected in the configuration required by the fishing method according to instructions from a supervisor. 2.2 Deployment of beach seines, mesh nets or gill nets from the vessel is carried out according to instructions from supervisor and vessel operating and safety procedures. 2.3 Beach seines, mesh nets or gill nets are deployed to ensure they are not twisted and are in a pattern required by the fishing operation. 2.4 Devices and systems are deployed to reduce environmental impact and interaction with by-catch. 2.5 Beach seine, mesh net or gill net storage area is cleaned according to hygiene requirements and vessel operating procedures.
3. Retrieve the beach seine, mesh net or gill net	3.1 Beach seines, mesh nets or gill nets are applied to winches or haulers and are retrieved to maximize catch in accordance with vessel operating procedure. 3.2 Catch is landed and removed from beach seines, mesh nets or gill nets to maximize seafood quality. 3.3 Beach seines, mesh nets or gill nets are disconnected and stowed to ensure ease of deployment, the safety of crew and a safe working area.
4. Land, contain and sort the catch	4.1 ***Containment devices*** are ***prepared*** to receive the catch according to hygiene requirements and vessel operating procedures. 4.2 Catch is loaded into containment devices according to vessel hygiene, safety and operating procedures. 4.3 Catch is ***sorted*** to maximize by-catch survival and seafood quality according to vessel operating procedures and fisheries regulations.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Beach seines, mesh nets or gill nets:	1.1 beach seines 1.2 gill nets for: 1.2.1 coastal species 1.2.2 estuarine species.
2. Checked:	symmetry of: 2.1 sweeps 2.2 bridles 2.3 head ropes 2.4 foot ropes 2.5 rips, holes and worn netting 2.6 security of hangings for net and lashings for ground gear and flotation 2.7 by-catch reduction devices 2.8 connecting devices for wear.
3. Criteria:	3.1 looseness 3.2 absence 3.3 cracks 3.4 wear limit 3.5 distortion 3.6 internal and external damage to rope
4. Components:	4.1 sweeps and bridles 4.2 netting material 4.3 hangings 4.4 flotation devices 4.5 ballast 4.6 by-catch reduction devices 4.7 flags, buoys and droppers 4.8 connecting devices: 4.8.1 knots 4.8.2 clips
5. Reconditioned:	5.1 all components except for the netting material.
6. Regulations and requirements:	6.1 BFAR regulations and other ecologically sustainable development principles 6.2 Municipal zoning regulations 6.3 occupational health and safety standards 6.4 enterprise procedures 6.5 hygiene requirements 6.6 environmental protection regulations 6.7 transport regulations and requirements.
7. Machinery:	7.1 net drums 7.2 capstans 7.3 line haulers 7.4 dinghies.
8. Used:	8.1 gear is guided on to machinery operated by other personnel 8.2 fishing gear is connected to the machinery 8.3 machinery is operated under supervision.
9. Containment devices:	9.1 brine tanks 9.2 sorting trays 9.3 fish boxes: 9.4 wash boxes

VARIABLE	RANGE
	9.5 exchangeable market boxes.
10. Prepared:	10.1 disinfected 10.2 exchangeable market boxes are accounted for 10.3 boxes sufficient for sorting are arranged ergonomically 10.4 brine tank hatches arranged.
11. Sorted:	11.1 by commercial value / quality classification 11.2 by species 11.3 by sex 11.4 by size 11.5 by weight 11.6 by time of catch (FIFO) 11.7 as by-catch 11.8 as seafood for retention.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1 maintained and prepared beach seining or gill netting gear ready for deployment, and to retrieve the gear to the vessel 1.2 handled and sorted seafood with regard to food safety and hygiene, and food quality. 1.3 prepared, deployed and retrieved common gear components 1.4 lashed ground gear and/or flotation 1.5 renewed damaged net hangings 1.6 repaired all aspects of the gear, except damaged netting 1.7 sorted and contained the catch. 1.8 Assessment must confirm knowledge of: 1.9 criteria for assessing the quality of gear components 1.10 order in which gear components are connected and disconnected 1.11 principles of personal and vessel hygiene.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to maintain, prepare, deploy and retrieve beach seines, mesh nets or gill nets to the required standard include: 2.1 factors that make components effective or defective 2.2 order in which gear components are connected and disconnected 2.3 basic operating principle of the fishing gear 2.4 principles that contribute to: 2.5 personal, seafood and vessel hygiene 2.6 environmental and resource protection 2.7 workplace safety 2.8 vessel stability.
3. Underpinning Skills	The essential skills a person needs to maintain, prepare, deploy and retrieve beach seines, mesh nets or gill nets to the required standard include: 3.1 repairing or replacing all worn gear components, excluding damage to netting material 3.2 assembling and dismantling connecting devices 3.3 ensuring gear is deployed untwisted 3.4 using machinery to deploy and retrieve fishing gear 3.5 stowing fishing gear 3.6 sorting catch. Literacy skills used for: 3.7 reading sizes of connecting gear. Numeracy skills used for: 3.8 measuring length or diameter.
4. Resource Implication	Resources must include: 4.1. fully operational vessel with beach seining or gill netting gear and catch suitable for sorting. 4.2. enterprise procedures.
5. Methods of Assessment	Competency should be assessed: 5.1. through direct observation / demonstration 5.2. portfolio
6. Context of Assessment	6.1. Assessment should be in a workplace. 6.2. Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **ADJUST AND POSITION HAND OPERATED LINES**

UNIT CODE : **AGR641313**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain, adjust and position hand operated line fishing gear (such as that used for hand line fishing, trolling, squid jigging and rod and reel fishing) to optimize the catch. This unit assumes some level of familiarity with the gear and is appropriate to an experienced fisher.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Organize a work area to adjust hand operated lines	1.1 Unsafe and inefficient aspects of the work area are identified and rectified. 1.2 Work teams are given clear instructions about the task and the methods to be used. 1.3 Resources necessary for the completion of the task are made available when needed.
2. Adjust hand operated line components to optimize catch	2.1 ***Criteria*** for assessing the sub-optimal performance of ***hand operated lines*** are used to judge effectiveness. 2.2 Catches are observed to provide information on the effectiveness of hand operated lines and fishing operations. 2.3 Hand operated line ***components*** are adjusted, reconditioned or constructed to rectify sub-optimal gear performance.
3. Position hand operated lines to optimize catch	3.1 Fishing strategy is developed to incorporate all relevant ***factors.*** 3.2 Position of hand operated lines is ***monitored*** and altered with respect to catch concentrations and environmental and other characteristics of area of operation. 3.3 Vessel position during the deployment and retrieval of hand operated lines is monitored for the factors that contribute to a successful fishing strategy and altered as required.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Criteria:	1.1 species composition of catch 1.2 amount of catch per unit of effort 1.3 amount of catch in comparison with other vessels 1.4 determining and monitoring tolerance to: 1.5 wear of gear components 1.6 distortion of gear components 1.7 quality of by-catch reduction devices 1.8 absence or breakage of gear components 1.9 quality of bait.
2. Hand operated lines:	2.1 nylon monofilament line 2.2 other fishing line 2.3 weighted hand lines mounted on a: 2.4 hand operated winch 2.5 power operated winch 2.6 hand reel 2.7 unweighted lines: 2.8 rod and reel 2.9 rolling gear 2.10 jigging machines.
3. Components:	3.1 rods 3.2 reels 3.3 hand lines 3.4 hooks, jigs or lures 3.5 sinkers 3.6 bait and burley 3.7 by-catch reduction devices.
4. Factors:	4.1 current 4.2 wind 4.3 tide 4.4 proximity to appropriate fishing ground: 4.5 rock, sand, gravel or mud 4.6 steepness or flatness 4.7 bottom growth 4.8 water character: 4.9 temperature and colour 4.10 water mass or structures 4.11 fish feeding group and bait species 4.12 estuary condition 4.13 proximity of other vessels 4.14 excessive by-catch 4.15 weather 4.16 moon phase 4.17 season.
5. Monitored:	5.1 vertical and horizontal line angle 5.2 line position in relation to target fishing site or depth 5.3 visual and electronic position fixing methods 5.4 using electronic detection equipment such as: 5.5 echo sounder 5.6 sonar 5.7 water temperature measuring and positioning devices 5.8 position fixing equipment.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 maintained, adjusted and positioned the vessel and gear during deployment, fishing and retrieval of hand operated lines in order to optimize the catch 1.2 kept all members of a team working efficiently and safely 1.3 described and identified the indicators of sub-optimal performance 1.4 made adjustments to all aspects of hand operated line fishing gear to optimize performance 1.5 placed a line at a predetermined position in the presence of a moderate current 1.6 exhibited ability to determine productive grounds and water in response to information from various sources. Assessment must confirm knowledge of: 1.7 factors that indicate and determine hand operated line operating efficiency.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to adjust and position hand operated lines to the required standard include: 2.1 factors that determine optimal gear performance such as: 2.2 gear dimensions and fishing depth 2.3 hook type 2.4 type and quality of bait and burley 2.5 indicators of sub-optimal performance 2.6 fish behaviour.
3. Underpinning Skills	The essential skills a person needs to adjust and position hand operated lines to the required standard include: 3.1 adjusting gear components to improve performance 3.2 using and repairing hand operated line fishing gear 3.3 monitoring the nature and position of benthic features and potential catches from echo sounder data. Literacy skills used for: 3.4 reading operating instructions for electronic detection equipment. Numeracy skills used for: 3.5 reading and recording data obtained from electronic detection equipment.
4. Resource Implication	Resources must include: 4.1 hand operated line fishing gear 4.1 operational hand line fishing vessel with access to stocks of appropriate target species.
5. Methods of Assessment	Competency should be assessed: 5.1 through direct observation / demonstration portfolio
6. Context of Assessment	Assessment should be in a workplace. 6.1 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **MAINTAIN, PREPARE, DEPLOY AND RETRIEVE HAND OPERATED LINES TO LAND CATCH**

UNIT CODE : **AGR641314**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain and prepare line fishing gear (such as that used for hand line fishing, trolling, squid jigging and rod and reel fishing) ready for deployment, and retrieving the gear to the vessel. The unit also involves the initial aspects of handling seafood specific to line fishing operations.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Maintain hand operated lines ready for deployment	1.1 ***Hand operated lines*** are ***checked*** against established ***criteria*** in accordance with the vessel maintenance plan or instructions provided by a supervisor. 1.2 Hand operated line ***components*** which are worn, loose or blunt are identified and either ***reconditioned*** or replaced. 1.3 Replacement hand operated line components are ordered according to enterprise procedures. 1.4 Defective hand operated line components are disposed of according to environmental protection ***regulations*** and enterprise procedures.
2. Deploy hand operated lines to ensure operating efficiency, low environmental impact and minimal interaction with by-catch	2.1 Hand operated line components are connected in the configuration required by the fishing method according to instructions from a supervisor. 2.2 ***Equipment used*** to deploy hand operated lines from the vessel is operated according to instructions from supervisors and vessel operating and safety procedures. 2.3 Hand operated lines are deployed to ensure they are in close proximity to and attract potential catches. 2.4 Devices and systems are deployed to reduce environmental impact and interaction with by-catch. 2.5 Hand operated line storage area is cleaned according to hygiene requirements and vessel operating procedures.
3. Retrieve hand operated lines	3.1 Equipment used to retrieve the catch to the vessel is operated according to instructions from supervisors and vessel operating and safety procedures. 3.2 Lines are guided on to equipment and are manipulated to ensure catch is retained. 3.3 Traces and line ends are handled and catch landed in accordance with instructions from supervisors to maximize seafood quality. 3.4 Hand operated lines are disconnected and stowed to ensure ease of deployment, the safety of crew and a safe working area. 3.5 Equipment is washed to minimize the impact of corrosion.
4. Land, contain and sort the catch	4.1 ***Containment devices*** are ***prepared*** to receive the catch according to hygiene requirements and vessel operating procedures. 4.2 Catch is loaded into containment devices according to vessel hygiene, safety and operating procedures. 4.3 Catch is ***sorted*** to maximize by-catch survival and seafood quality according to vessel operating procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Hand operated lines:	1.1 nylon monofilament line 1.2 other fishing lines 1.3 weighted lines mounted on a: 1.3.1 hand operated winch 1.3.2 power operated winch 1.3.3 hand reel 1.4 unweighted lines: 1.4.1 rod and reel 1.4.2 trolling gear 1.4.3 squid jigging machines and lines.
2. Checked:	2.1 broken, blunt or bent components 2.2 security of connecting devices, knots and lashings 2.3 by-catch reduction devices 2.4 lines for wear.
3. Criteria:	3.1 looseness 3.2 sharpness of hooks 3.3 absence 3.4 cracks 3.5 wear limit 3.6 distortion 3.7 external damage to line
4. Components:	4.1 rods 4.2 reels 4.3 hand lines 4.4 hooks, jigs or lures 4.5 sinkers 4.6 bait and burley 4.7 by-catch reduction devices
5. Reconditioned:	5.1 line re-tied 5.2 lines are coiled and uncoiled as required 5.3 connections re-tied or re-collared 5.4 clips straightened 5.5 hooks sharpened 5.6 bait replaced 5.7 rods and reels washed, maintained and repaired
6. Regulations and requirements:	6.1 BFAR regulations and other ecologically sustainable development principles 6.2 Municipal zoning regulations 6.3 occupational health and safety standards 6.4 enterprise procedures 6.5 vessel operating procedures 6.6 lifting guidelines 6.7 hygiene requirements 6.8 environmental protection regulations 6.9 fisheries regulations 6.10 transport regulations and requirements
7. Equipment:	7.1 deploying devices: 7.1.1 rod and reel 7.1.2 hand operated winch 7.1.3 power operated winch

VARIABLE	RANGE
	7.1.4 squid jigging machines 7.1.5 outrigger poles 7.2 retrieval devices: 7.2.1 retrieval lines 7.2.2 rod and reel 7.2.3 hand operated winch 7.2.4 power operated winch 7.2.5 squid jigging machines 7.2.6 gaff 7.2.7 product compatible gloves 7.2.8 glove assisted landing technique 7.2.9 play lines 7.2.10 dinghies
8. Used:	8.1 gear is guided on to equipment operated by other personnel 8.2 fishing gear is connected to the equipment 8.3 equipment is operated under supervision 8.4 advice on the use of the equipment is offered.
9. Containment devices:	9.1 brine tanks: 9.1.1 kill tanks 9.1.2 ice slurry 9.1.3 ice compartments 9.1.4 fish handling and sorting areas 9.2 fish boxes: 9.2.1 wash boxes 9.2.2 exchangeable market boxes 9.2.3 freezing cartons
10. Prepared:	10.1 cleaned 10.2 disinfected 10.3 freezing cartons assembled 10.4 freezer carton liners applied 10.5 exchangeable market boxes are accounted for 10.6 boxes sufficient for sorting are arranged ergonomically 10.7 brine tank hatches arranged.
11. Sorted:	11.1 by species 11.2 by legal length 11.3 by size 11.4 by sex: 11.4.1 male or female 11.4.2 sexual stage 11.5 as by-catch 11.6 as seafood for retention.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 maintained and prepared line fishing gear (such as that used for hand line fishing, trolling, squid jigging and rod and reel fishing) ready for deployment, and to retrieve the gear to a commercial fishing vessel 1.2 handled and sorted seafood with regard to food safety and hygiene, and food quality. 1.3 prepared, deployed and retrieved common gear components 1.4 renewed and repaired damaged gear components 1.5 sorted and contained the catch. Assessment must confirm knowledge of: 1.6 criteria for assessing the quality of hand operated line fishing gear components 1.7 the order in which hand operated line fishing gear components are connected and disconnected 1.8 principles of personal and vessel hygiene.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to maintain, prepare, deploy and retrieve hand operated lines to the required standard include: 2.1 factors that make components effective or defective 2.2 order in which gear components are connected and disconnected 2.3 basic operating principle of hand operated line fishing gear 2.4 principles that contribute to: 2.4.1 personal, seafood and vessel hygiene 2.4.2 environmental and resource protection 2.4.3 workplace safety 2.4.4 vessel stability 2.4.5 benefits of ice slurry.
3. Underpinning Skills	The essential skills a person needs to maintain, prepare, deploy and retrieve hand operated lines to the required standard include: 3.1 repairing or replacing all worn hand operated line fishing gear components 3.2 assembling and dismantling connecting devices 3.3 coiling and uncoiling lines 3.4 ensuring gear is deployed untwisted 3.5 using equipment to deploy and retrieve hand operated line fishing 3.6 stowing hand operated line fishing gear 3.7 sorting catch 3.8 operating small vessels. Literacy skills used for: 3.9 reading different line strengths. Numeracy skills used for: 3.10 measuring length or diameter.
4. Resource Implication	Resources must include: 4.1. fully operational hand operated line fishing vessel with catch suitable for sorting.
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment should be in a workplace. 6.2. Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **ADJUST AND POSITION POTS AND TRAPS**

UNIT CODE : **AGR641315**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain, adjust and position pots and traps to optimize the catch. This unit assumes some level of familiarity with the gear and is appropriate to an experienced fisher. This fishing gear is typically used in Municipal Fisheries.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Organize a work area to adjust traps and pots	1.1 Unsafe and inefficient aspects of the work area are identified and rectified. 1.2 Work teams are given clear instructions about the task and the methods to be used. 1.3 Resources necessary for the completion of the task are made available when needed. 1.4 Tools for maintaining ***traps and pots*** are obtained appropriate for intended use.
2. Adjust trap and pot components to optimize catch	2.1 ***Criteria*** for assessing sub-optimal trap and pot performance are used to judge effectiveness. 2.2 Observations of traps and pots are made to provide data on performance. 2.3 Trap and pot ***components*** are adjusted, reconditioned or constructed to rectify sub-optimal gear performance.
3. Position traps and pots to optimize catch	3.1 Fishing strategy is developed to incorporate all relevant ***factors.*** 3.2 Position of traps and pots is ***monitored*** and altered to optimize catch in accordance with the fishing strategy. 3.3 Sea factors are monitored for effect on position of vessel. 3.4 Optimum position of vessel is maintained during trap and pot deployment.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Traps and pots:	1.1 lobster pots 1.2 fish traps 1.3 octopus traps 1.4 other.
2. Criteria:	2.1 species composition of catch 2.2 amount of catch per unit of effort 2.3 amount of catch in comparison with other vessels 2.4 determining and monitoring tolerance to: 2.4.1 holes in gear material 2.4.2 wear of gear components 2.4.3 distortion of gear components 2.5 quality of by-catch reduction devices 2.6 absence or breakage of gear components.
3. Components:	3.1 flag poles 3.2 dan buoys with: 3.2.1 lights 3.2.2 RADAR reflectors 3.2.3 radio transponders 3.2.4 floats 3.2.5 lines 3.2.6 bridles, toggles and lashings 3.2.7 ballast 3.2.8 bait and bait holding devices 3.2.9 pot or trap material and frame 3.3 by-catch reduction devices.
4. Factors:	4.1 depth 4.2 wind 4.3 tide 4.4 current 4.5 proximity to appropriate fishing ground: 4.5.1 rock, sand, gravel or mud 4.5.2 steepness or flatness 4.5.3 bottom growth 4.5.4 bait species 4.6 proximity of other vessels 4.7 excessive by-catch 4.8 predators and other disturbances.
5. Monitored:	5.1 vertical and horizontal pot or trap rope angle 5.2 pot or trap position in relation to target fishing site 5.3 visual and electronic position fixing methods 5.4 using electronic detection equipment such as: 5.4.1 echo sounder 5.4.2 sonar.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1 maintained, adjusted and positioned the vessel and gear during deployment, fishing and retrieval of pots and traps in order to optimize the catch 1.2 kept all members of a team working efficiently and safely 1.3 described and identified the indicators of sub-optimal performance 1.4 made adjustments to all aspects of potting or trapping gear to optimize performance 1.5 manoeuvred a pot or trap to a predetermined bottom position in the presence of moderate current 1.6 determined productive ground in response to information from various sources. Assessment must confirm knowledge of: 1.7 factors that indicate and determine pot or trap operating efficiency.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to adjust and position pots and traps to the required standard include: factors that determine optimal gear performance such as: 2.1 satisfactory ground contact 2.2 bait 2.3 pot or trap covering material 2.4 pot or trap construction 2.5 indicators of sub-optimal performance 2.6 fish behaviour.
3. Underpinning Skills	The essential skills a person needs to adjust and position pots and traps to the required standard include: 3.1 adjusting gear components to improve performance 3.2 using and repairing potting or trapping gear 3.3 monitoring the nature and position of benthic features and potential catches from echo sounder data. Literacy skills used for: 3.4 reading operating instructions for electronic detection equipment. Numeracy skills used for: 3.5 reading and recording data obtained from electronic detection equipment.
4. Resource Implication	Resources may include: 4.1 operational potting or trapping vessel with access to stocks of appropriate target species.
5. Methods of Assessment	Competency should be assessed: 5.1 through direct observation / demonstration 5.2 portfolio
6. Context of Assessment	Assessment should be in a workplace. 6.1 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **MAINTAIN, PREPARE, DEPLOY AND RETRIEVE POTS AND TRAPS TO LAND CATCH**

UNIT CODE : **AGR641316**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain and prepare potting and trapping gear ready for deployment, and retrieving the gear to the vessel. The unit also involves the initial aspects of seafood handling specific to potting and trapping operations. Potting and trapping are typically carried out in Municipal Fisheries.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Maintain traps and pots ready for deployment	1.1 ***Traps and pots*** are ***checked*** against established ***criteria*** in accordance with the vessel maintenance plan or instructions provided by a supervisor. 1.2 Trap and pot ***components*** which are defective, worn or loose are identified and either ***reconditioned*** or replaced. 1.3 Replacement gear components are ordered according to enterprise procedures. 1.4 Defective trap and pot components are disposed of according to environmental protection ***regulations*** and enterprise procedures.
2. Deploy traps and pots to ensure operating efficiency, low environmental impact and minimal interaction with by-catch	2.1 Trap and pot components are prepared and gathered ready for deployment. 2.2 Trap and pot components are connected in the configuration required by the fishing method according to instructions from a supervisor. 2.3 Traps and pots are moved in accordance with vessel operating procedures, lifting guidelines and deck team work procedures. 2.4 Traps and pots are deployed to ensure lines are not fouled and trap or pot orientation is correct. 2.5 Devices and systems are deployed to reduce environmental impact and interaction with by-catch. 2.6 Trap and pot storage area and devices are cleaned and stowed according to hygiene requirements and vessel operating procedures.
3. Retrieve traps and pots	3.1 Floats and dan poles are retrieved according to vessel operating procedures. 3.2 Ropes are applied to hauling devices and are loaded into baskets for stowing in accordance with supervisor's instructions. 3.3 Catch is extracted from traps and pots in accordance with instructions from supervisor and to maximize seafood quality. 3.4 Traps and pots are disconnected and stowed to ensure ease of deployment, the safety of crew and a safe working area.
4. Land, contain and sort the catch	4.1 ***Containment devices*** are ***prepared*** to receive the catch according to hygiene requirements and vessel operating procedures. 4.2 Catch is loaded into containment devices according to vessel hygiene, safety and operating procedures. 4.3 Catch is ***sorted*** to maximize by-catch survival and seafood quality according to vessel operating procedures and fisheries regulations.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Traps and pots:	1.1 lobster pots 1.2 crab pots 1.3 fish traps (grouper and other reef fish) 1.4 others.
2. Checked:	2.1 symmetry of bridles 2.2 broken or bent components 2.3 security of knots and lashings 2.4 by-catch reduction devices 2.5 ropes for wear.
3. Criteria:	3.1 looseness 3.2 absence 3.3 cracks 3.4 wear limit 3.5 distortion 3.6 internal and external damage to rope.
4. Components:	4.1 flag poles 4.2 floats 4.3 lines 4.4 bridles, toggles and lashings 4.5 ballast 4.6 bait and bait holding devices 4.7 pot or trap material and frame 4.8 by-catch reduction devices.
5. Reconditioned:	5.1 pot frames tightened 5.2 material stretched 5.3 ropes re-spliced and replaced, if necessary 5.4 bait replaced.
6. Regulations and requirements:	6.1 BFAR regulations and other ecologically sustainable development principles 6.2 Municipal zoning regulations 6.3 occupational health and safety standards 6.4 enterprise procedures 6.5 vessel operating procedures 6.6 hygiene requirements 6.7 environmental protection regulations 6.8 fisheries regulations 6.9 transport regulations and requirements.
7. Containment devices:	7.1 sorting areas
8. Boxes	Boxes: 8.1 wash boxes 8.2 exchangeable market boxes.
9. Prepared:	9.1 cleaned 9.2 disinfected 9.3 exchangeable market boxes are accounted for 9.4 boxes sufficient for sorting are arranged ergonomically.
10. Sorted:	10.1 by commercial value / quality classification 10.2 by species / variety 1.03 by size 10.4 by sex 10.5 by time of catch (FIFO) 10.6 as by-catch.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1 Maintained and prepared potting and trapping gear ready for deployment, and to retrieve the gear to the vessel 1.2 handled and sorted seafood with regard to food safety and hygiene, and food quality. 1.3 prepared, deployed and retrieved the common trap and pot gear components listed in the range of variables 1.4 renewed and repaired damaged gear components 1.5 sorted and contained the catch. Assessment must confirm knowledge of: 1.6 criteria for assessing the quality of trap and pot gear components 1.7 order in which gear components are connected and disconnected 1.8 principles of personal and vessel hygiene.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to maintain, prepare, deploy and retrieve pots and traps to the required standard include: 2.1 factors that make trap and pot components effective or defective 2.2 order in which trap and pot fishing gear components are connected and disconnected 2.3 basic operating principle of the fishing gear 2.4 principles that contribute to: 2.5 personal, seafood and vessel hygiene 2.6 environmental and resource protection 2.7 workplace safety 2.8 vessel stability.
3. Underpinning Skills	The essential skills a person needs to maintain, prepare, deploy and retrieve pots and traps to the required standard include: 3.1 repairing or replacing all worn gear components 3.2 assembling and dismantling connecting devices 3.3 ensuring gear is deployed untwisted 3.4 using machinery to deploy and retrieve trap and pot fishing gear 3.5 stowing fishing gear 3.6 sorting catch. Literacy skills used for: 3.7 reading sizes of connecting gear. Numeracy skills used for: 3.8 measuring length or diameter.
4. Resource Implication	Resources must include: 4.1 fully operational potting or trapping vessel with catch suitable for sorting. 4.2 enterprise procedures.
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio.
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

ELECTIVE COMPETENCIES

UNIT OF COMPETENCY : **Load and unload goods/cargo**

UNIT CODE : **AGR641302**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to load and unload goods and cargo, including loading and unloading goods, securing and protecting the load and completing all required documentation

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Load and unload goods/cargo	1.1 Load characteristics are identified and taken into account when determining appropriate loading and unloading procedures 1.2 Dangerous or hazardous goods are identified and handled in accordance with relevant regulations/permit requirements 1.3 Load is packed/unpacked to make safe and effective use of available spaces 1.4 Goods/cargo are loaded in accordance with relevant mass and loading regulations and workplace procedures 1.5 Lifting aids and appliances are selected and used to aid loading procedures in compliance with workplace procedures and safety legislation 1.6 Unloading activities are conducted in a safe and efficient manner taking into account suitable locations, stowage, safe use of equipment and the balance of the remaining load 1.7 Goods requiring special handling and/or documentation are identified and appropriate procedures followed 1.8 Relocated material is restacked appropriate for the transport method, safe height, weight loading, size and crushability of the goods
2. Secure and protect load	2.1 The distribution of the load is checked to ensure that it is even, legal and within safe working capacity 2.2 Load is checked to ensure that dangerous goods and hazardous substances are appropriately segregated in accordance with relevant regulations 2.3 Load is secured using the correct load restraint and protection equipment for different loads, carrying and storage conditions 2.4 The load is protected in accordance with legal and workplace safety requirements
3. Complete documentation	3.1 The load is inspected and checked for security to travel in accordance with relevant regulations/permit requirements 3.2 All required documentation for the goods is completed in accordance with workplace requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1 OH&S requirements may include:	1.1 OH&S legal requirements 1.2 Enterprise OH&S policies, procedures and programs
2 Work in carried out in accordance with regulations. Regulatory requirements may include:	2.1 Relevant regulations regarding food processing and food safety regulations 2.2 Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3 Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3 Hygiene and sanitation requirements may include:	3.1 Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2 Requirements set out by Bureau of Food and Drugs 3.3 Workplace requirements
4 Workplace requirements may include:	4.1 Work instructions 4.2 Standard operating procedures 4.3 OH&S requirements 4.4 Quality assurance requirements 4.5 Equipment manufacturers' advice 4.6 Material Safety Data Sheets 4.7 Codes of Practice and related advice
5 General Context:	5.1 Work must be carried out in compliance with the relevant regulations/permit requirements including those of the relevant roads and traffic authority concerning the loading of goods/cargo 5.2 Work is performed under some supervision generally within a team environment 5.3 Work involves the application of the basic principles, routine procedures and regulatory/permit requirements to the loading and unloading of goods/cargo
6 Worksite environment	6.1 Operations may be conducted in a range of work environments by day or night 6.2 Customers may be internal or external 6.3 Workplaces may comprise large, medium or small worksites 6.4 Work may be conducted in: 6.4.1. restricted spaces 6.4.2. exposed conditions 6.4.3. controlled or open environments 6.5 Goods/cargo to be loaded or unloaded may require special precautions 6.6 Loads to be shifted may be: 6.6.1 irregularly shaped 6.6.2 packaged or unpackaged 6.6.3. labelled or unlabelled 6.6.4. palleted or unpalleted 6.7 Hazards in the work area may include exposure to: 6.7.1 chemicals 6.7.2 dangerous or hazardous substances 6.7.3 movements of equipment, goods and materials 6.8 Personnel in the work area may include: 6.8.1 workplace personnel

VARIABLE	RANGE
	6.8.2 site visitors 6.8.3 contractors 6.8.4 official representatives 6.9 Communication in the work area may include: 6.9.1. phone 6.9.2. electronic data interchange 6.9.3. fax 6.9.4. e-mail 6.9.5. Internet 6.9.6. radio 6.9.10 oral, aural or signed communications 6.10 Loading operations may be carried out both manually and with the aid of lifting equipment and/or appliances 6.11 Depending on the type of organisation concerned and the local terminology used, workplace procedures may include: 6.11.1. company procedures 6.11.2. enterprise procedures 6.11.3. organisational procedures 6.11.4. established procedures 6.12 Personal protection equipment may include: 6.12.1. gloves 6.12.2. safety headwear and footwear 6.12.3. safety glasses 6.12.4. two-way radios 6.13 high visibility clothing
7 Sources of information/documentation:	7.1 Information/documents may include: 7.1.1 goods identification numbers and codes, 7.1.2 manifests, bar codes, goods and container identification 7.1.3 manufacturer's specifications for equipment/tools 7.1.4 workplace procedures and policies for the loading and unloading of goods/cargo 7.1.5 supplier and/or client instructions 7.1.6 material safety data sheets 7.1.7 EPGs and Initial Response Guide (HB76:1998 or equivalent) 7.1.8 codes of practice including the manual handling 7.2 award, enterprise bargaining agreement, other industrial arrangements 7.3 quality assurance procedures 7.4 emergency procedures 7.5 Load Restraint Guidelines
8 Applicable regulations and legislation:	8.1 Applicable regulations and legislation may include relevant standards and regulations including mass and loading regulations 8.2 Philippine and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances. 8.3 Relevant environmental protection legislation 8.4 Relevant OHS legislation

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidences that the candidate 1.1 identified load characteristics, dangerous or hazardous goods, loading equipment and related practices and take appropriate action 1.2 identified class and subsidiary risk labels for dangerous goods and take appropriate action 1.3 followed applicable codes 1.4 safely loaded and unloaded goods following workplace procedures 1.5 distributed and secured load for safe transport in accordance with regulations 1.6 located, interpreted and applied relevant information 1.7 provided customer/client service and work effectively with others 1.8 conveyed information in written and oral form when loading/unloading 1.9 maintained workplace loading/unloading records 1.10 selected and used appropriate workplace colloquial and technical language and communication technologies in the workplace context
2. Underpinning Knowledge and Attitudes	Knowledge of: 2.1 Loading regulations 2.2 Philippine and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances 2.3 OHS and procedures and guidelines concerning the lifting and movement of loads 2.4 Risks when loading and unloading goods/cargo and related precautions to control the risk 2.5 Workplace procedures and policies for the loading and unloading of goods/cargo 2.6 Housekeeping standards procedures required in the workplace 2.7 Methods of securing a load 2.8 Site layout and obstacles 2.9 Ability to identify and correctly use equipment required to load and unload goods/cargo 2.10 Ability to modify activities depending on differing workplace contexts, risk situations and environments 2.11 Ability to read and comprehend simple statements 2.12 Ability to identify containers and goods coding, markings and, where applicable, emergency information panels and take appropriate action 2.13 Ability to estimate the size shape and special requirements of loads and take appropriate action

	2.14 Ability to safely use manual handling techniques and to operate manually-operated load shifting equipment
3. Underpinning Skills	3.1. Planning and organizing work (time management) 3.2. Working with others and in teams
4. Resource Implication	The following resources should be provided: 4.1. Workplace location and access to workplace policies 4.2. Materials relevant to the proposed activity and tasks
5 Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6 Context of Assessment	Assessment should be in a workplace. 6.1. Demonstration of competency over time and on a number of occasions

UNIT OF COMPETENCY : **ASSEMBLE AND REPAIR DAMAGED NETTING**

UNIT CODE : **AGR641303**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to repair various types of damage that occurs to the netting material used for fish or prawn trawls, purse seines, beach seines or gill nets.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare netting material for repair	1.1 Netting ***material*** is arranged and repair ***tools*** organized to maximize job ***efficiency*** and safety. 1.2 Material required for the ***repair operation*** is identified by ***measuring*** existing material or by reference to a gear plan. 1.3 Damaged netting is removed using net work tools and disposed of to eliminate environmental impact according to enterprise procedures. 1.4 Retained netting is ***prepared*** ready to accept replacement. 1.5 Replacement netting is ***shaped*** with net repair tools. 1.6 Replacement netting is ***strengthened*** according to the gear plan or supervisor's instructions before being added to the net.
2. Mend holes and rips using twine	2.1 Starting points are identified and twine is ***secured*** to the netting according to supervisor's instructions. 2.2 Twine is used to tie ***knots*** that make meshes to resemble original ***netting.*** 2.3 Twine is secured at the end of the repair according to supervisor's instructions.
3. Mend large scale damage using netting material	3.1 Starting points are identified and twine is secured to the netting according to supervisor's instructions. 3.2 Existing and replacement material is ***joined*** using twine and knots to resemble original netting. 3.3 Existing and replacement material is joined using twine and ***lacing*** to resemble original netting.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Material:	1.1 gill netting: 1.2 monofilament 1.3 multi-monofilament 1.4 purse seine netting: 1.5 knotted and knotless netting 1.6 braided twine 1.7 twisted twine 1.8 polyethylene (PE) 1.9 polyamide (nylon) (PA) 1.10 strengthening ropes.
2. Tools:	netting needles: 2.1 bone 2.2 flat 2.3 knives 2.4 scissors 2.5 measuring devices: 2.6 marked rod 2.7 mesh gauge 2.8 ruler 2.9 stands 2.10 tensioning devices.
3. Efficiency:	3.1 posture of workers 3.2 safety of working area 3.3 proximity to resources 3.4 worker comfort 3.5 speed of work.
4. Repair operation:	4.1 holes 4.2 rips 4.3 patches 4.4 joining two panels with: 4.4.1 sewing 4.4.2 lacing 4.5 additional strengthening ropes 4.6 different sized meshes 4.7 patching.
5. Measuring:	twine: 5.1 ply 5.2 diameter 5.3 tex, Rtex 5.4 material type: 5.4.1 PE 5.4.2 PA 5.5 monofilament 5.6 braided 5.7 twisted 5.8 mesh size for mending purposes 5.9 mesh size for fisheries regulation purposes.

VARIABLE	RANGE
6. Prepared:	knots: 6.1 cleaned off 6.2 remaining 6.3 starting point 6.4 end point all other meshes either: 6.5 points or 6.6 meshes.
7. Shaped:	7.1 all meshes 7.2 all points 7.3 all bars 7.4 combinations of above to form tapers.
8. Strengthened:	8.1 selvedge 8.2 bordered with stronger netting 8.3 double twine 8.4 gathering meshes 8.5 strengthening ropes.
9. Secured:	9.1 double sheet bend 9.2 sheet bend with overhand knot.
10. Knots:	1.1 double sheet bend 10.2 sheet bend tied horizontally and vertically 10.3 side knot: 10.3.1 net maker's 10.3.2 half hitches 10.4 rolling hitch or hanging knots 10.5 baiting 10.6 joining (fisherman's) knot 10.7 sewn with meshes horizontal 10.8 sewn with meshes vertical.
11. Netting:	11.1 regular meshes of netting 11.2 meshes running through a join in two panels 11.3 meshes along the side of a panel: 11.4 all bar taper decreasing along a hung edge 11.5 all bar taper increasing along a hung edge 11.6 combinations of points, meshes and bars to form a taper.
12. Joined*:*	12.1 mesh to mesh 12.2 point to point 12.3 paper to taper 12.4 gathering meshes together.
13. Lacing:	13.1 temporary mending 13.2 in seine netting 13.3 two panels together including strengthening ropes.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 repaired various types of damage that occurs to the netting material used for fish or prawn trawls, purse seines, beach seines or gill nets 1.2 mended damage to hung areas of netting 1.3 repaired large scale damage to netting material by sewing in patches and panels 1.4 mended rips in netting.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to perform work to the required standard include: 2.1 factors which contribute to an efficient, fast and safe net mending job 2.2 naming, identifying and understanding different netting terms 2.3 order in which knots are tied to form netting material 2.4 recognizing polyethylene and polyamide netting 2.5 measuring different types of netting 2.6 using a taper table to design netting panels of a required depth, width or taper 2.7 how a gear plan describes a net.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standards include: 3.1 using the net mending tools listed in the range of variables 3.2 preparing repair jobs by establishing start and end points and either meshes or points in between 3.3 cutting tapers into netting material 3.4 strengthening netting material 3.5 mending rips and holes by sewing twine and knots listed 3.6 repairing large scale damage to netting material by sewing in patches and panels 3.7 mending damage to hung areas of netting 3.8 joining panels of netting of different sized meshes. Literacy skills used for: 3.9 reading tables describing the effect of tapers on panel shape 3.10 interpreting the abbreviations on a gear plan. Numeracy skills used for: 3.11 counting the ply of twine 3.12 measuring the diameter of twine 3.13 counting meshes 3.14 calculating joining ratios.
4. Resource Implication	Resources must include: 4.1 different types of netting requiring repair 4.2 fully operational net repair area.
5. Methods of Assessment	Competency should be assessed: 5.1 through direct observation / demonstration 5.2 portfolio
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **IMPLEMENT THE FOOD SAFETY PROGRAM AND PROCEDURES**

UNIT CODE : **AGR641317**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain personal hygiene and conduct, food handling, housekeeping and waste disposal related to work tasks and responsibilities where work involves operation of production and/or packaging equipment and processes

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Implement food safety program	1.1 ***Food handling*** requirements are identified 1.2 Food handling is carried out according to the food safety program 1.3 ***Food safety hazards*** are controlled as required by the food safety program 1.4 Where food safety control requirements are not met, the incident is promptly reported and corrective action taken 1.5 ***Food safety information*** is recorded to meet requirements of the food safety program 1.6 The workplace is maintained in a clean and tidy order to meet workplace standards
2. Participate in maintaining and improving food safety	2.1 Work area, materials, equipment and product are routinely monitored to ensure compliance with food safety requirements 2.2 Processes, practices or conditions which could result in a food safety breach are identified and reported according to ***workplace reporting requirements*** 2.3 Corrective action is taken in accordance with the food safety program 2.4 Food safety issues are raised with designated personnel
3. Comply with personal hygiene standards	3.1 ***Personal hygiene*** meets the requirements of the ***food safety program*** 3.2 Health conditions and/or illness are reported as required by the food safety program 3.3 ***Clothing*** and footwear worn is appropriate for the food handling task and meets the requirements of the food safety program 3.4 Movement around the workplace complies with the food safety program

RANGE OF VARIABLES

VARIABLE	RANGE
1. OH&S requirements may include:	1.1. OH&S legal requirements 1.2. Enterprise OH&S policies, procedures and programs
2. Regulatory requirements may include:	2.1. Relevant regulations regarding food processing and food safety regulations 2.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3. Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3. Hygiene and sanitation requirements may include:	3.1. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2. Requirements set out by Bureau of Food and Drugs 3.3. Workplace requirements
4. Workplace requirements may include:	4.1. Work instructions 4.2. Standard operating procedures 4.3. OH&S requirements 4.4. Quality assurance requirements 4.5. The ability to perform the task to production requirements
5. A food safety program:	5.1. A food safety program is a written document that specifies how a business will control all food safety hazards that may be reasonably expected to occur in all food handling operations of the food business. The food safety program and related procedures must comply with legal requirements. Where no food safety program is in place, food safety requirements may be specified in general operating procedures
6. Food safety information:	6.1. Food safety information may be provided in a food safety program and/or in Standard Operating Procedures (SOPs), specifications, log sheets and written or verbal instruction
7. Food handling:	7.1. Food handling refers to food receipt and storage, food preparation, cooking, holding, cooling, chilling and reheating, packaging, and disposal 7.2. Products/materials handled and stored can include raw materials, ingredients, consumables, part-processed product, finished product and cleaning materials

VARIABLE	RANGE
8. Food safety breaches:	8.1. Examples of a breach of food safety procedures could include failure to check delivery temperatures of potentially hazardous chilled food; failure to place temperature-sensitive food in temperature controlled storage conditions promptly; failure to wash hands when required; and use of cloths for unsuitable purposes 8.2. Responsibility for monitoring food safety, identifying breaches in food safety procedures and taking corrective action relates to own tasks and responsibilities and occurs in the context of the food safety program in the workplace 8.3. Monitoring describes the methods used to confirm that a food safety hazard is in control. Examples of monitoring procedures include taking temperatures, collecting samples, conducting visual inspections and conducting other tests as required
9. Food safety hazard:	9.1. A food safety hazard is a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect
10. Personal hygiene:	10.1. Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements and/or state legislation/regulations
11. Reporting health conditions:	11.1. Reporting of health conditions and illness requirements are specified by the food safety program. At a minimum this must meet legal requirements and/or state legislation/regulations
12. Appropriate clothing:	12.1. Appropriate clothing and footwear depends on work requirements. It should be designed to ensure that the body and clothing itself does not contaminate food or surfaces likely to come into contact with food. Examples of clothing designed to prevent contamination by the body include purpose designed overalls or uniforms, hair-nets, beard snoods, gloves and overshoes

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidences that the candidate : 1.1. Located and followed workplace information relating to food safety responsibilities 1.2. Followed workplace procedures to maintain food safety as required by the food safety program relating to own work 1.3. Monitored food safety hazards as required by the food safety program. This may include methods such as visual inspection, sampling and testing 1.4. Recorded results of monitoring, and maintain records as required by the food safety program 1.5. Identified and reported situations that do not meet the requirements of the food safety program and/or could result in unsafe food 1.6. Took corrective action as required by food safety program within level of responsibility 1.7. Handled, cleaned and stored equipment, utensils, packaging materials and similar items according to the requirements of the food safety program as required by work role 1.8. Maintained personal hygiene consistent with the food safety program 1.9. Took necessary precautions when moving around the workplace and/or from one task to another to maintain food safety 1.10. Worn and maintained appropriate clothing/footwear as required by work tasks and consistent with the requirements of the food safety program 1.11. Reported health conditions and illness as appropriate according to the food safety program 1.12. Handled and disposed of out-of-specification or contaminated food, waste and recyclable material according to food safety program as this requirement relates to own work responsibility 1.13. Maintained the work area in a clean and tidy state 1.14. Identified and reported signs of pest infestation 1.15. Recorded food safety information in appropriate format 1.16. Collected samples and conducted tests according to the food safety program 1.17. Participated in investigating food safety breaches
2. Underpinning Knowledge and Attitudes	2.1. Sources of information and expertise on procedures and responsibilities for food safety relating to own work 2.2. Basic concepts of HACCP-based food safety. This includes identification of hazards that are likely to occur, establishing appropriate methods of control and confirming that controls are met 2.3. Food safety management arrangements in the workplace. This includes awareness of food safety legislation and workplace policies and procedures to implement responsibilities. It includes an understanding of the relationship between the quality system and food safety program, personnel responsible for developing and implementing the food safety program, the role of internal and external auditors as appropriate, procedures followed to investigate contamination events, and performance improvement processes 2.4. Awareness of common micro biological, physical and chemical hazards related to the foods handled in the work

	area. This includes the types of hazards likely to occur, the conditions under which they occur, possible consequences and control methods to prevent occurrence 2.5. Basic understanding of the properties, handling and storage requirements of ingredients, materials and products handled and used 2.6. Suitable standard for materials, measuring devices, equipment and utensils used in the work area 2.7. Food safety requirements related to work responsibilities. This includes personal hygiene, requirements and procedures to report illness and safe food handling practices for own work 2.8. Methods used to monitor that food safety is under control. This may include an understanding of the purpose of sampling and taking measurements such as temperature and pH and conducting inspections and tests 2.9. Action required in the event of non-compliance. Corrective action is typically described in the food safety program and/or related workplace information 2.10. Purpose of keeping records and the recording requirements of the food safety program 2.11. Methods used in the workplace to isolate or quarantine food which may be unsafe 2.12. Product and ingredient traceability procedures. This may include product recall where required by work responsibilities 2.13. Clothing and footwear requirements for working in and/or moving between food handling areas 2.14. Personal clothing maintenance, laundering and storage requirements 2.15. Appropriate bandages and dressings to be used when undertaking food handling 2.16. Housekeeping requirements and responsibilities relating to own work. Where relevant this includes use and storage of housekeeping/cleaning equipment 2.17. Procedures to follow in the event of pest sighting or discovery of infestation 2.18. Purpose and importance of cleaning and sanitation procedures 2.19. Waste collection, recycling and handling procedures relevant to own work responsibilities 2.20. Cleaning and sanitation procedures 2.21. Impact of rework handling/addition on food safety 2.22. Sampling and test methods
3. Underpinning Skills	3.1. Planning and organizing work (time management) 3.2. Working with others and in teams
4. Resource Implication	The following resources must be provided: 4.1. workplace location and access to workplace policies 4.2. materials relevant to the proposed activity and tasks
5. Methods of Assessment	Competency should be assessed: 5.1. through direct observation / demonstration 5.2. portfolio
6. Context of Assessment	6.1. Assessment should be in a workplace. 6.2. Demonstration of competency over time and on a number of occasions. as required

UNIT OF COMPETENCY : **KEEP RECORDS FOR A MUNICIPAL FISHING BUSINESS**

UNIT CODE : **AGR641318**

UNIT DESCRIPTOR : This competency standard covers the process of creating and maintaining physical records, preparing and processing basic financial transactions, establishing and maintaining a cash book, and reconciling and preparing invoices within primary production businesses. Both the physical and financial records of the business are vital for use by management for planning purposes, meeting legislative requirements, and the efficient operation of the business on a daily basis.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare and store physical records	1.1 ***Physical records*** and inventories required for the organization are determined in consultation with the ***management team***. 1.2 ***Methods for collecting information*** are reliable, and time and resources are used efficiently. 1.3 Appropriate ***interpersonal skills*** are used to access relevant information from individuals and teams. 1.4 Information is organized into a **format** suitable for analysis, interpretation and dissemination in accordance with organizational requirements. 1.5 ***Business equipment/technology*** is used to maintain information in accordance with organizational and OHS requirements. 1.6 Records are updated and stored in accordance with organizational requirements.
2. Process petty cash transactions	2.1 Petty cash claims and vouchers are ***checked for accuracy and authenticity*** prior to processing. 2.2 Petty cash transactions are processed and recorded in accordance with organizational requirements. 2.2 Petty cash book balanced in accordance with organizational requirements.
3. Establish and maintain a cash book in accordance with organizational requirements	3.1 Cash receipts and payments book created, and ***documentation*** relating to financial ***transactions checked for validity*** prior to processing. 3.2 ***Cashbook*** balances reconciled with bank and creditor statements. 3.3 Cashbook balances are used to complete ***legislative reporting requirements***. 3.4 ***Cash flow statements*** are prepared on the basis of summarised cashbook entries.
4. Reconcile invoices for payment to ***creditors***	4.1 Adjustments and errors are identified, reported and rectified in accordance with organizational requirements. 4.2 Invoices processed and payment made in accordance with organizational requirements.
5. Prepare invoices for ***debtors***	5.1 Invoices are prepared accurately and, if required, distributed to nominated person for verification prior to despatch. 5.2 Adjustments are made as required in accordance with organizational requirements. 5.3 Invoices and other related documents copied and filed in accordance with organizational requirements for ***taxation and auditing*** purposes.

RANGE OF VARIABLES

VARIABLE	RANGE
1. physical records	1.1. Records may include a 1.1.1. property plan 1.1.2. technical data – volume of catch, etc. 1.1.3. monitoring – schedules, etc.
2. management team	2.1. They may be oneself, family members, fellow managers, employees, professional advisors, partners, and mentors.
3. methods for collecting information	3.1. Methods for collecting information may include observation and listening, previous file records, individual research, statistics and reports from other organizations, producing reports from data collected, translating data from diaries and note-books, or professional data collection agency.
4. interpersonal skills	4.1. Interpersonal skills may include effective listening, open questioning techniques, verbal and non verbal communication skills, appropriate body language, and the ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities.
5. format	5.1. Format for records and inventories could include maps, graphs, charts, cards, electronic, databases, diaries, or notebooks.
6. business equipment/technology	6.1. Business equipment and technology that might be used include computer, software, Internet, email, calculator, fax or phone.
7. checking for accuracy and authenticity	7.1. Checking may include correct information on voucher, receipt of purchase, and ensuring items are business related.
8. cashbook	8.1. A cashbook documents the daily receipts and payments of the business. It may be created and maintained manually and/or electronically.
9. documentation requires checking for validity	9.1. Documentation may include cheques, taxation invoices, accounts, and credit card vouchers. 9.2. Validity may include checking date, signatures, details on cheque are correct, expiry date of credit cards, information on taxation invoice, and accounts are accurate.
10. legislative reporting requirements	10.1. Legislative reporting requirements may include recording Philippine Business Number, business activity statements (BAS), installment activity statements, superannuation, taxation, or work cover.
11. cash flow statements	11.1. Cash flow statements summarize the organizations actual and expected cash flow over designated periods of time. Budgets allocate income against expenses. Both types of statements can be created manually or electronically.
12. creditors and debtors	12.1. Creditors and debtors may include financial institutions, goods and service suppliers, rural merchants, contractors, professional advisors, and co-operatives.

VARIABLE	RANGE
13. taxation and auditing requirements	13.1. Taxation and auditing requirements would include accurate records of all business assets, liabilities, income, expenses and entitlements to be analyzed by an accountant for compliance purposes.
14. transactions	14.1. Financial transactions may include purchasing and selling products, machinery and equipment, vehicles and supplies, banking cheques, paying invoices and bills, or transferring funds electronically.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1. created, maintained and stored physical and financial records in accordance with legislative and organizational requirements. 1.2. processed and recorded Financial transactions involving cash, electronic funds transfer, cheques and invoices accurately in accordance with legislative and organizational requirements. The skills and knowledge required to keep records in a rural business must be transferable to a different work environment. For example, across a wide range of small, medium and large agri-fisheries businesses.
2. Underpinning Knowledge and Attitudes	2.1. Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts, and to deal with unplanned events. The knowledge requirements for this competency standard are listed below: 2.2. nature of the business and its legal and organizational structure 2.3. relevant national, provincial and municipal government legislative requirements, especially in regard to OHS and environmental requirements 2.4. organizational policies and procedures relating to the distribution of workplace information, legal and ethical obligations 2.5. procedures to analyze information to identify patterns and trends 2.6. the organizations record keeping/filing systems, security of information and safe record keeping procedures 2.7. principles of effective interpersonal communication 2.8. principles and procedures for cash and non cash handling 2.9. principles of single entry accounting, and cash flow statements.
3. Underpinning Skills	To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to: 3.1. relate to people from a range of social, cultural and ethnic backgrounds, and of varying physical and mental abilities 3.2. collect and record accurate and reliable information 3.3. present data in a format suitable for the organizations requirements 3.4. use business equipment and technology correctly and safely 3.5. file records accurately in accordance with organizational requirements 3.6. perform calculations and balance accounts 3.7. prepare cash flow statements and budgets 3.8. reconcile creditors invoices and prepare debtors invoices 3.9. process forms and other documentation.

4. Resource Implication	The following resources must be provided: 4.1. workplace 4.2. source records 4.3. enterprise procedures processing income and expenses, and reporting
5. Methods of Assessment	Competency should be assessed: 5.1. through direct observation / demonstration 5.2. Portfolio (checking workplace records and financial reports)
6. Context of Assessment	6.1. Assessment should be in a workplace. 6.2. Demonstration of competency over time

UNIT OF COMPETENCY : **APPLY BASIC FIRST AID**

UNIT CODE : **AGR641319**

UNIT DESCRIPTOR : This unit of competency deals with the provision of essential First Aid in recognizing and responding to an emergency using basic life support measures. The First Aide is not expected to deal with complex casualties or incidents, but to provide an initial response where First Aid is required. In this unit it is assumed the First Aide is working under supervision and/or according to established workplace First Aid procedures and policies.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Assess the situation	1.1 ***Physical hazards*** to own and others' health and safety are identified 1.2 Immediate ***risk*** to self and health and safety of the casualty/OHS are minimised by controlling the hazard in accordance with OHS requirements 1.3 Casualty's ***vital signs*** and physical condition are assessed in accordance with workplace procedures
2. Apply basic First Aid techniques	2.1 ***First Aid management*** is provided in accordance with established First Aid procedures 2.2 Casualty is reassured in a caring and calm manner and made comfortable using available resources 2.3 First Aid assistance is sought from others in a timely manner and as appropriate 2.4 ***Casualty's condition*** is monitored and responded to in accordance with effective ***First Aid principles*** and workplace procedures 2.5 Details of casualty's physical condition, changes in conditions, management and response to management are accurately recorded in line with organisational procedures 2.6 Casualty management is finalised according to casualty's needs and First Aid principles
3. ***Communicate*** details of the incident	3.1 Appropriate medical assistance is requested using relevant communication media and equipment 3.2 Details of casualty's condition and management activities are accurately conveyed to emergency services/relieving personnel 3.3 Reports to supervisors are prepared in a timely manner, presenting all relevant facts according to established company procedures or existing government standards

RANGE OF VARIABLES

VARIABLE	RANGE
1. Physical hazards may include:	1.1. Workplace hazards 1.2. Environmental hazards 1.3. Proximity of other people 1.4. Hazards associated with the casualty management processes
2. Risks may include:	2.1. Worksite equipment, machinery and substances 2.2. Environmental risks 2.3. Bodily fluids 2.4. Risk of further injury to the casualty 2.5. Risks associated with the proximity of other workers and bystanders
3. Vital signs include:	3.1. Breathing 3.2. Circulation 3.3. Consciousness
4. Established First Aid principles include:	4.1. Checking the site for danger to self, casualty and others and minimizing the danger 4.2. Checking and maintaining the casualty's airway, breathing and circulation
5. Casualty's condition is managed for:	5.1. Abdominal injuries 5.2. Allergic reactions 5.3. Bleeding 5.4. Burns - thermal, chemical, friction, electrical 5.5. Cardiac conditions 5.6. Chemical contamination 5.7. Cold injuries 5.8. Crush injuries 5.9. Dislocations 5.10. Drowning 5.11. Envenomation - snake, spider, insect and marine bites 5.12. Environmental conditions such as hypothermia, dehydration, heat stroke 5.13. Epilepsy, diabetes, asthma and other medical conditions 5.14. Eye injuries 5.15. Fractures 5.16. Head injuries 5.17. Minor skin injuries 5.18. Neck and spinal injuries 5.19. Needle stick injuries 5.20. Poisoning and toxic substances 5.21. Respiratory management of asthma and/or choking 5.22. Shock 5.23. Smoke inhalation 5.24. Soft tissue injuries including sprains, strains, dislocations 5.25. Substance abuse - including drugs 5.26. Unconsciousness including not breathing and no pulse
6. First Aid management will need to account for:	6.1. Location and nature of the workplace 6.2. Environmental conditions eg electricity, biological risks, weather, motor vehicle accidents 6.3. Location of emergency services personnel 6.4. Use and availability of First Aid equipment and resources 6.5. Infection control

VARIABLE	RANGE
7. Medications may include:	7.1. Asthma–aerosol bronchodilators casualty's own or from First Aid kit in accordance with state and territory legislation 7.2. Severe allergic reactions–adrenaline–subject to casualty's own regime
8. Resources and equipment are used appropriate to the risk and may include:	8.1. Defibrillation units 8.2. Pressure bandages 8.3. Thermometers 8.4. First Aid kit 8.5. Eyewash 8.6. Thermal blankets 8.7. Pocket face masks 8.8. Rubber gloves 8.9. Dressing 8.10. Spacer device 8.11. Cervical collars
9. Communication systems may include but are not be limited to:	9.1. Mobile phone 9.2. Satellite phones 9.3. HF/VHF radio 9.4. Flags 9.5. Flares 9.6. Two-way radio 9.7. Email 9.8. Electronic equipment

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1. Performed Resuscitation 1.2. Performed demonstration of First Aid casualty management principles assessing and minimizing danger, maintaining the casualty's airway, breathing and circulation 1.3. Performed safe manual handling of casualty 1.4. Considered the welfare of the casualty 1.5. Prepared Report 1.6. Communicated effectively 1.7. Demonstrated ability to interpret and use listed documents Assessment should confirm the knowledge of: 1.8. Basic anatomy and physiology 1.9. Company standard operating procedures (sops) 1.10. Dealing with confidentiality 1.11. Knowledge of the First Aide's' skills and limitations 1.12. OHS legislation and regulations 1.13. How to gain access to and interpret material safety data sheets (MSDS)
2. Underpinning Knowledge and Attitudes	2.1. Basic anatomy and physiology 2.2. Duty of care 2.3. Resuscitation 2.4. Bleeding control 2.5. Care of unconscious 2.6. State and territory regulatory requirements relating to currency of skill and knowledge 2.7. Decision making 2.8. Infection control 2.9. Legal requirements 2.10. Airway management 2.11. Assertiveness skills 2.12. Communication skills
3. Underpinning Skills	3.1. Resuscitation 3.2. First Aid casualty management principles assessing and minimizing danger, maintaining the casualty's airway, breathing and circulation 3.3. Safe manual handling of casualty 3.4. Consideration of the welfare of the casualty 3.5. Report preparation 3.6. Communication skills 3.7. Ability to interpret and use listed documents
4. Resource Implication	4.1 First Aid equipment and materials 4.2 Communication equipment appropriate to the workplace 4.3 Workplace documentation 4.4 Enterprise procedures
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Competence may be demonstrated working individually, under supervision or as part of a First Aid team. 6.2 Where applicable, assessment should replicate workplace conditions as far as possible. Where, for reasons of safety, access to equipment and resources and space, assessment takes place away from the workplace, simulations should be used to represent workplace conditions as closely as possible. Consistency of performance should be maintained over the required range of workplace situations until renewal of competence /license is required by the industry/organisation.

UNIT OF COMPETENCY : **OPERATE AND MAINTAIN MARINE OUTBOARD MOTORS**

UNIT CODE : **AGR641320**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to operate and maintain outboard motors and propulsion motors typically used by vessels of up to 3 GT, and to diagnose and rectify basic faults when in isolated situations.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Operate outboard motors	1.1. ***Pre-start checks*** are performed on the motor. 1.2. Outboard motors are *started* and stopped according to the engine manufacturer's instructions. 1.3. Outboard motor ***controls*** are used to manoeuvre a dinghy both ahead and astern, and port and starboard. 1.4. Outboard motor cooling systems are ***checked*** for operation according to manufacturer's recommendations. 1.5. Trim and tilt mechanisms are operated according to manufacturer's instructions.
2. Maintain outboard motors	2.1. Fuel filters are changed and *fuel quality* is maintained according to manufacturer's instructions. 2.2. ***Electrical systems*** are maintained to ensure reliable electrical supply to the outboard motor. 2.3. Sea water is flushed from the internal and external parts of the outboard motor using the appropriate tools and fresh water, keeping water away from sensitive equipment. 2.4. Engine and gearbox oil is checked and changed and lubrication is applied according to manufacturer's instructions. 2.5. Engine mounting gear is secured and checked as necessary.
3. Identify and rectify basic outboard motor faults	3.1 Operating difficulties caused by fuel-related factors are identified and rectified where possible according to trouble shooting guides and manufacturer's instructions. 3.2 Electrical faults are identified and rectified according to trouble shooting guides and manufacturer's instructions. 3.3 Outboard engines that were immersed are serviced according to manufacturer's instructions. 3.4 Outboard motor ***propulsion faults*** are identified and rectified according to manufacturer's instructions.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Pre-start checks:	1.1 amount of fuel in the fuel tank 1.2 appropriate fuel 1.3 water depth 1.4 cooling water intake submerged 1.5 motor attachment points 1.6 fuel hose connected, full and free of constrictions 1.7 fuel tank depressurised.
2. Started:	2.1 pull start 2.2 electric start.
3. Controls:	3.1 remote throttle and gear levers 3.2 tiller 3.3 steering wheel 3.4 tilt and trim mechanisms.
4. Checked:	4.1 cooling water circulation indicator 4.2 temperature gauge 4.3 temperature warning sound.
5. Fuel quality:	5.1 by estimating fuel consumption at turning points 5.2 contamination 5.3 fuel to oil ratio 5.4 filter type and quality.
6. Electrical systems:	6.1 batteries: 6.2 charge rate 6.3 capacity 6.4 fuses 6.5 spark plugs.
7. Propulsion faults:	7.1 bent or broken propeller 7.2 broken shear pin or drive spline 7.3 fouling 7.4 pitch.
8. Documentation:	8.1 motor manufacturer's instructions and recommended procedures 8.2 instructions of Philippine maritime authorities
9. Government and international requirements:	9.1 Relevant Philippine Government legislation, regulations and orders and international requirements related to the operation and maintenance of outboard motors on coastal vessels.

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1 operated and maintained outboard motors and be able to diagnose and rectify basic faults when in isolated situations 1.2 started and stopped an outboard motor 1.3 operated all controls on an outboard motor to propel a dinghy ahead and astern 1.4 performed basic maintenance on an outboard motor 1.5 stored an outboard motor.
2. Underpinning Knowledge and Attitudes	2.1 Relevant Marina regulations and related memorandums 2.2 Outboard motor fuel systems 2.3 Outboard motor cooling systems 2.4 Outboard motor lubrication systems 2.5 Battery connection 2.6 Trouble shooting 2.7 International Convention for the Prevention of Pollution from Ships (MARPOL) requirements.
3. Underpinning Skills	3.1 checking, operating and maintaining an outboard motor that is used to propel a small vessel Literacy skills used for: 3.2 reading trouble shooting charts 3.3 reading manufacturers' instruction manuals. Numeracy skills used for: 3.4 calculating fuel to oil ratios or using tables to find and add correct volume of lubricating oil 3.5 estimating fuel consumption and time at turning points
4. Resource Implication	The following resources must be provided: 4.1. fully operational vessel, and or 4.2. an appropriate simulation of an outboard motor on a small vessel
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **TRANSMIT AND RECEIVE INFORMATION BY MARINE RADIO OR TELEPHONE**

UNIT CODE : **AGR641321**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to transmit and receive information by marine radio or telephone on board small and medium Philippine commercial vessels, including using marine VHF and HF radiotelephone in accordance with regulations, carrying out user-maintenance and fault-finding procedures on radio equipment and power supplies, and operating an emergency position indicating beacon (EPIRB) and a search and rescue transponder (SART).

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Operate VHF and HF radio equipment to transmit and receive messages	1.1. Types of radio equipment are selected and operated within limits of specifications 1.2. ***Radio equipment*** is operated to transmit and receive various types of signal in accordance with manufacturer's instructions, established radio operation procedures and regulatory requirements 1.3. Regulations and procedures applicable to vessel stations equipped with radiotelephony and digital selective calling (DSC) facilities are applied during radio communications 1.4. OHS procedures and hazard control strategies are applied when operating radio equipment in accordance with vessel's ISM Code safety management system
2. Maintain and fault-find radio equipment	2.1. Routine maintenance checks are carried out on radiotelephony equipment in accordance with manufacturer's instructions and specifications and company procedures 2.2. Out-of-specification performance and faults in radio equipment are correctly identified and investigated using prescribed fault-finding techniques in accordance with established user maintenance procedures and manufacturer's instructions 2.3. Identified faults and defective radio equipment and component parts are rectified or replaced in accordance with manufacturer's instructions and established maintenance procedures
3. Access search and rescue radio facilities	3.1. Application is made the appropriate organization for the provision of the required search and rescue services 3.2. Information required by AUSREP (Australian Ship Reporting) system is supplied in the required format

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
4. Deploy and operate an EPIRB and a SART	4.1. Routine checks are carried out on Emergency Position Indicating Radio Beacons (EPIRBs) and Search and Rescue Transmitters (SARTs) to confirm their operational capability in accordance with manufacturer's instructions and specifications 4.2. Appropriate action is taken to rectify or replace EPIRBs or SARTs that are found to be malfunctioning or are inoperable in accordance with manufacturer's instructions and company procedures 4.3. Emergency Position Indicating Radio Beacons (EPIRBs) and Search and Rescue Transmitters (SARTs) are deployed as required in accordance with manufacturer's instructions and established search and rescue procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Radio and radiotelephony communications may be carried out	1.1 in both normal and emergency situations using shipboard HF and VHF radio equipment, Emergency Position Indicating Radio Beacons (EPIRBs) and SARTs
2. Radio and radiotelephony communications may be carried out:	2.1qby day or night in both normal and emergency situations 2.2 under any possible conditions of weather 2.3 while underway 2.4 while anchored or moored
3. Radio equipment may include:	3.1 Radiotelephony transreceiving equipment, including: 3.2 medium frequency / high frequency equipment (MF/HF) 3.3 very high frequency equipment (VHF) 3.4 digital selective calling (DSC) equipment 3.5 Emergency Position Indicating Radio Beacon (EPIRB) 3.6 Search and Rescue Transmitter (SART) 3.7 batteries 3.8 aerials 3.9 electrical and radio cable connections 3.10 electrical fuses
4. Radio communications may include:	4.1 distribution and securing procedures 4.1.1. normal vessel-to-vessel service 4.1.2. normal vessel-to-shore service 4.2 on-demand service 4.3 auto seaphone service 4.4 auto seaphone 999 service 4.4.1. distress 4.4.2. urgency 4.4.3. safety 4.4.4. navigational 4.4.5. medical advice 4.4.6. emergency position signals
5. Government requirements:	5.1. Relevant government legislation, regulations and orders (including pertinent Marina regulations and related memorandums) 5.2 Radio Regulations adopted by the World Administrative Radio Conference for the Mobile Service (1987),
6. Organisations with whom radio communications may be conducted may include:	6.1 coast stations 6.2 limited coast stations 6.3 private shore stations 6.4 volunteer coast guard stations. 6.5 search and rescue coordination centre location and operator 6.6 state police forces 6.7 company bases 6.8 fishing organisations and cooperatives
7. Available radio services may include:	7.1. medical advice services 7.2. search and rescue 7.3. public correspondence
8. EPIRB frequencies	8.1. 406 MHz

VARIABLE	RANGE
may include:	8.2. 121.5 / 243 MHz
9. Sources of information / documents:	9.1. sections of IMO STCW 95 Code concerning radio communications 9.2. relevant government legislation, regulations and orders radio communications 9.3. radio communications log 9.4. radio equipment manufacturer's specifications and instructions 9.5. records of radio communications.

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidences that the candidate : 1.1 Operated VHF and HF radio equipment to transmit and receive messages 1.2 Maintained and fault-find radio equipment 1.3 Accessed search and rescue radio facilities 1.4 Deployed and operated an EPIRB and a SART 1.5 Maintained records of radio communications
2. Underpinning Knowledge and Attitudes	2.1. Knowledge of sections of relevant regulations related to marine radio communications 2.2 Different types of marine radio equipment, their features, applications, operating characteristics and operating procedures 2.3 Basic principles and procedures for marine radio communications 2.4 Purpose for and procedures for the monitoring of calling and working frequencies 2.5 Purpose of silence periods when operating radio equipment 2.6 Limitations on the performance of different types of marine radio equipment 2.7 Hazards associated with radio transmission and the repair and maintenance of radio equipment and related hazard control measures and OHS regulations. 2.8 A basic understanding of the Philippine marine search and rescue system 2.9 Procedures for the transmitting and decoding of the phonetic alphabet excluding the figure code 2.10 Typical radio equipment faults and defects and related fault finding techniques and remedial procedures 2.11 Procedures for deploying and operating EPIRBs and SARTs 2.12 Typical radio communications problems and appropriate action and solutions 2.13 Procedures for keeping records of radio communications
3. Underpinning Skills	3.1. Transmitting and decoding of the phonetic alphabet excluding the figure code 3.2. Checking of radio performance 3.3. Testing fuses 3.4. Measuring capacity of batteries and the specific gravity of the electrolyte 3.5. Measuring on and off load voltage.keeping records of radio communications 3.6. Deploying and operating EPIRBs and SARTs Literacy skills used for: 3.7 oral communications when using marine radios 3.8 keeping records of radio communications.
4. Resource Implication	The following resources must be provided: 4.1. suitably-simulated radio communications situations that are typically experienced on a vessel, and/or 4.2. an appropriate range of operational radio communications situations on board an operational commercial or training vessel
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation/demonstration 5.2 Portfolio
6. Context of Assessment	6.1. Assessment is to be conducted at the workplace or in a simulated work environment.

UNIT OF COMPETENCY : **PERFORM BREATH HOLD DIVING OPERATIONS**

UNIT CODE : **AGR641322**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to dive in an occupational setting from either a vessel or from shore using breath holding techniques to perform work in the fishing or aquaculture sectors of the seafood industry.
Specific industry guidelines and/or enterprise procedures may provide some variations in the performance criteria.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare for dive	1.1 Pre-dive plan and work schedule is devised to identify hazards and contingencies according to enterprise ***procedures*** and industry guidelines. 1.2 Equipment is checked to confirm suitability for planned work and serviceability. 1.3 When used, diving assistant/observer is briefed on procedures to be used during diving ***operations***.
2. Perform work during a breath hold dive	2.1 Water is entered and a descent is made to the required depth according to accepted ***diving practice.*** 2.2 Ascent from the dive and access to the shore or vessel is made according to industry guidelines and enterprise procedures. 2.3 ***Equipment*** is used to establish working environment. 2.4 Work is performed under water according to dive plan and enterprise procedures and industry guidelines. 2.5 Signs and symptoms of injury and other information relevant to the situation are monitored on a continuous basis and used to assess one's ***physical condition***.
3. Employ techniques that reduce underwater hazards	3.1 Occupational ***hazards*** that may cause injury or harm are ***assessed*** and action taken to remove or minimize hazards according to pre-dive plan and enterprise procedures. 3.2 Dive procedures used are according to the pre-dive plan and enterprise procedures. 3.3 ***Systems*** and procedures to reduce hazards are devised and implemented.
4. Complete post-dive activities	4.1 Post-dive ***checks*** are performed on all essential equipment according to enterprise procedures. 4.2 Components of diving equipment are maintained to ensure they are working efficiently and safely according to accepted diving practice. 4.3 Equipment is stowed according to enterprise procedures. 4.4 Records are completed in a legible manner and forwarded to supervisor, industry or regulatory body or stored according to enterprise and regulatory requirements.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Procedures:	1.1 communication techniques 1.2 duration of submersion.
2. Operations:	2.1 collecting sea animals: 2.1.1 abalone 2.1.2molluscs 2.1.3 beche-de-mer 2.1.4 lobster 2.1.5 sea urchin 2.2 tending aquacultured animals 2.3 collecting lost tools and equipment, dead animals, debris 2.4 checking underwater equipment, nets and other fishing gear 2.5 installing, servicing and maintaining ponds and associated equipment.
3. Diving practice:	3.1 checking for underwater dangers 3.2 eliminating ear drum barotrauma 3.3 eliminating reverse blockages 3.4 eliminating the danger of cold water cramp and hypothermia.
4. Equipment:	4.1 wetsuit 4.2 weights 4.3 face mask and snorkel 4.4 fins 4.5 catch bag 4.6 safety line.
5. Physical condition:	5.1 ear problems: 5.1.1 ear drum barotrauma 5.2 colds, influenza and ear, nose and throat infections 5.3 squeezes 5.4 near drowning, salt water aspiration 5.5 shock from bleeding 5.6 burns 5.7 hypothermia 5.8 hyperventilation.
6. Hazards:	6.1 underwater dangers or snags 6.2 ear drum barotrauma 6.3 reverse blockages, squeezes 6.4 cold water cramp 6.5 hypothermia 6.6 aquatic animals 6.7 hyperventilation 6.8 lack of swimming ability 6.9 underwater terrain.
7. Assessed:	7.1 hazards are listed 7.2 causes of hazards is described 7.3 an indication of when hazards might occur is given 7.4 likelihood of the hazard occurring is described.
8. Systems:	8.1 briefings 8.2 check in and out 8.3 direct supervision.

VARIABLE	RANGE
9. Checks:	9.1 seals: 9.1.1 face mask 9.1.2 wetsuit 9.2 deterioration of rubber and straps 9.3 presence, suitability and operability of: 9.3.1 diving equipment 9.3.2 safety and emergency equipment 9.4 pre-dive 9.5 post-dive.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 performed a dive in an occupational setting from either a vessel or from shore using breath holding techniques to perform work in the fishing or aquaculture sectors of the seafood industry 1.2 performed breath hold diving 1.3 used diving equipment: 1.4 mask clearing 1.5 clearing squeezes 1.6 donning and doffing weights, fins, mask and wetsuit 1.7 devised and implemented systems and procedures that reduce underwater hazards.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to perform work to the required standard include: 2.1 dangers of barotrauma, and squeezes 2.2 dangers of cold water 2.3 breath holding limitations 2.4 dangers of hyperventilation 2.5 organizational procedures.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standards include: 3.1 conforming with breath hold dive procedures as used by the diver: 3.2 donning and doffing gear above and below water 3.3 clearing water from mask 3.4 clearing squeezes 3.5 swimming without the effects of current 3.6 snorkelling 3.7 identifying occupational hazards underwater 3.8 perform the work specified in the range of variables applicable to the diving operation 3.9 diagnosing one's own physical condition as a result of a dive.
4. Resource Implication	Resources are to include: 4.1 suitable swimming area 4.2 diving equipment listed in range of variables.
5 Methods of Assessment	Competency should be assessed: 5.1 through direct observation / demonstration 5.2 Portfolio
6 Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **ASSEMBLE AND LOAD REFRIGERATED PRODUCT**

UNIT CODE : **AGR641323**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to assemble packs/cases and load refrigerated product onto a transport unit. It covers transferring the product from fishing vessels or other production facilities onto a transport vehicle, rail or air freight according to enterprise procedures that ensure occupational health and safety standards and food regulations are always met.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare transport unit	1.1 ***Transport unit*** is checked to ensure that it is clean and its refrigeration or insulation is operational and that it is ready to accept refrigerated product, according to the enterprise food safety plan and food ***regulations***.
2. Assemble and check product	2.1 Product temperature and labelling are checked to ensure that they meet the enterprise food safety plan and food regulations. 2.2 Product is assembled before unloading and put onto a pallet if required, ensuring that product temperature is not compromised whilst product is waiting to be unloaded. 2.3 Where required, product is weighed, and the weight recorded, according to enterprise procedures. 2.4 Weighed product is re-iced as necessary after weighing, to ensure that the temperature of all product meets enterprise food safety plan and food regulations.
3. Load product	3.1 Product is carefully placed into transport unit in a manner that will ensure occupational health and safety standards are met, and that product and its packaging are not compromised. 3.2 Frozen product is carefully transferred immediately from refrigerated storage into a refrigerated transport unit that is able to maintain product temperature at the standard required by food regulations. 3.3 Records of product loaded, number of packs/cases/pallets, product identification codes, product temperature, and consignment documentation are collected and checked. 3.4 Documentation is returned to the supervisor at the workplace, according to enterprise procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Transport unit:	1.1 refrigerated trucks for fresh and frozen product 1.2 insulated vehicles for fresh product 1.3 rail transport 1.4 air transport 1.5 refrigerated containers.
2. Regulations and requirements:	2.1 BFAR-FQS Export Control (Fish) Orders 2.2 government food regulations 2.3 enterprise food safety program 2.4 enterprise quality assurance system 2.5 enterprise procedures.
3. Occupational health and safety standards may include:	3.1 codes of practice, regulations and/or guidance notes which may apply in a jurisdiction 3.2 enterprise-specific occupational health and safety procedures, policies or standards 3.3 safe lifting procedures 3.4 correct use of Personal Protective Equipment (PPE) 3.5 waterproof clothing 3.6 work safety or waterproof footwear 3.7 protective hand covering 3.8 protective hair or beard cover 3.9 insulated outer clothing.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1. assembled and loaded fresh and frozen product, record weights, container numbers and product identification, 1.2. ensured product temperature always conforms to government food regulations.
2. Underpinning Knowledge and Attitudes	2.1. The essential knowledge and understanding a person needs to perform work to the required standards include: 2.2 temperature storage and handling requirements 2.3 hygienic handling and transport of fresh and frozen product 2.4 personal, workplace and product hygiene.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standards include: 3.1 lifting packaged product safely 3.2 using weighing scales accurately 3.3 identifying species 3.4 handling and sorting fresh product safely 3.5 icing fresh product accurately 3.6 communicating orally to give and receive information. Licences may be required : 3.7 if operating load shifting equipment such as forklifts) Literacy skills used for: reading and following occupational health and safety standards 3.8 reading and checking a consignment note. Numeracy skills used for: 3.9 weighing fish 3.10 adding and subtracting 3.11 reading a thermometer 3.12 counting accurately.
4. Resource Implication	Resources must include: 4.1 fresh seafood product 4.2 frozen seafood product 4.3 fish tubs, cases, styrene boxes, cardboard boxes 4.4 pallets 4.5 ice 4.6 scales 4.7 thermometers 4.8 consignment notes 4.9 product labels.
5. Methods of Assessment	The following assessment method is suggested: 5.1 Through practical observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **SHIFT A LOAD USING MANUALLY – OPERATED EQUIPMENT**

UNIT CODE : **AGR641324**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to shift loads using manually operated mechanical equipment, including assessing the risks associated with relocating the load, planning the relocation process and carrying out the relocation with the aid of the equipment in accordance with the plan

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Assess the risks arising from the relocation of the load	1.1 Products, goods or materials to be relocated are identified 1.2 Location for storage is determined 1.3 Routes to be followed are identified 1.4 Points of balance are estimated 1.5 Effect of moving contents which may be loose, liquid, dangerous or hazardous are considered 1.6 Potential risks in route(s) which may be followed are considered 1.7 Lifting equipment to minimize potential risks is identified 1.8 Appropriate personal protective equipment is worn
2. Plan load relocation	2.1 Load shifting equipment is selected in accordance with workplace procedures and cargo loading manual 2.2 Safe procedures for using lifting equipment are identified, including the calculation of Safe Working Load (SWL) and/or Working Load Limit (WLL) for weight of goods to be moved 2.3 Process for relocating load is proposed including predicting and planning for potential difficulties 2.4 Proposed process is checked against relevant code of practice and workplace procedures for compliance 2.5 Lifting equipment and accessories are checked for safe operation in accordance with manufacturer's instructions and workplace procedures
3. Relocate load	3.1 Any unsafe equipment is reported to appropriate personnel in accordance with workplace requirements 3.2 Planned process and route are followed using equipment within necessary range of limitations 3.3 Relocated materials are set down without damage to goods, personnel or equipment and checked for stability 3.4 Relocation is checked to see that it meets ***work requirements,*** and any variances are reported 3.5 Equipment is returned to storage area in accordance with workplace procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. OH&S requirements may include:	1.1. OH&S legal requirements 1.2. Enterprise OH&S policies, procedures and programs
2. work is carried out in accordance with regulations. Regulatory requirements may include:	2.1. Relevant regulations regarding food processing and food safety regulations 2.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3. Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3. Hygiene and sanitation requirements may include:	3.1. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2. Requirements set out by Bureau of Food and Drugs 3.3. Workplace requirements
4. Workplace requirements may include:	4.1. Work instructions 4.2. Standard operating procedures 4.3. OH&S requirements 4.4. Quality assurance requirements 4.5. Equipment manufacturers' advice 4.6. Material Safety Data Sheets 4.7. Cargo Loading Manual / Trim and Stability Calculation booklet 4.8. Codes of Practice and related advice

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidences that the candidate:: 1.1. used manually-operated equipment to shift loads 1.2. identified risks to self, others and equipment when using manually-operated equipment to shift loads and take appropriate precautions to minimise the risks 1.3. estimated effect of load and operating limitations of equipment 1.4. located interpreted and applied relevant information 1.5. maintained workplace records 1.6. used workplace colloquial and technical language and communication technologies in the workplace context
2. Underpinning Knowledge and Attitudes	Knowledge of: 2.1. Relevant OHS and procedures and guidelines concerning the use of manually-operated equipment to shift loads 2.2. Risks when using manually-operated equipment to shift loads and related precautions to control the risk 2.3. Workplace procedures and policies for the shifting of goods and materials using manually-operated equipment 2.4. Housekeeping standards procedures required in the workplace 2.5. Site layout and obstacles 2.6. Ability to modify activities depending on differing workplace contexts, risk situations and environments 2.7. Ability to read and comprehend simple statements 2.8. Ability to identify containers and goods coding, markings and where applicable emergency information panels 2.9. Ability to estimate the size shape and special requirements of loads
3. Underpinning Skills	3.1. Planning and organizing work (time management) 3.2. Working with others and in teams
4. Resource Implication	The following resources should be provided: 4.1. Workplace location and access to workplace policies 4.2. Materials relevant to the proposed activity and tasks
5. Methods of Assessment	Competency should be assessed: 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1. Assessment should be in a workplace. 6.2. Demonstration of competency over time and on a number of occasions

UNIT OF COMPETENCY : **MAINTAIN THE TEMPERATURE OF SEAFOOD**

UNIT CODE : **AGR641325**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to maintain the temperature of seafood and seafood products at appropriate levels on board fishing vessels, and at all premises involved in the production, handling and distribution of seafood and seafood product. The techniques used include icing, preserving in chilled brine, and freezing.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare temperature control system for receiving seafood	1.1 ***Storage containers*** are selected, gathered, cleaned and ***arranged*** to accept seafood. 1.2 Temperature control system is arranged to accept seafood or containers of seafood in accordance with enterprise ***requirements*** and procedures. 1.3 Seafood is loaded into selected containers to ensure that the ***quality*** of the seafood is not damaged.
2. Preserve seafood using a temperature control system	2.1 Seafood containers are arranged within the refrigeration system, where appropriate, to ensure efficient unloading and maintenance of product temperature. 2.3 ***Cooling medium*** is applied to seafood according to enterprise guidelines. 2.4 Temperature control system is monitored to ensure ***operating efficiency*** according to enterprise procedures. 2.5 Seafood temperature is measured, monitored and maintained within guidelines and corrective action is taken when required. 2.6 Seafood is ***handled*** according to enterprise, industry and legislative requirements.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Seafood and seafood products:	1.1. live 1.2. fresh 1.3. frozen 1.4. applies to all species and to products in any state, for example: 1.4.1. fillets 1.4.2. whole fish 1.4.3. opened or unopened molluscs 1.4.4. processed or unprocessed seafood 1.4.5. cooked or raw 1.4.6. aquatic plants, etc.
2. Appropriate:	2.1. the appropriate temperature will vary according to the biological and environmental requirements of the species and the state of the product (live, processed, frozen, cooked, opened etc).
3. Temperature control system:	3.1. chilling 3.2. freezing. 3.3. with or without ice 3.4. with or without refrigeration.
4. Storage containers:	4.1 fish boxes 4.2 freezer cartons: 4.3 cardboard 4.4 plastic 4.5 netting bags.
5. Arranged:	to ensure stability of vessels: 5.1. free surface effect 5.2. longitudinal and transverse 5.3. to ensure watertight integrity of vessels: 5.4. plastic bags stowed 5.5. sumps clear 5.6. ice removed 5.7. hatches replaced 5.8. to ensure operating temperature of refrigeration system is attained before seafood is loaded 5.9. systematically to aid loading and unloading and packing and unpacking to ensure critical temperature of product is achieved and maintained.
6. Requirements:	6.1. occupational health and safety standards 6.2. customer specifications 6.3. to minimize cross-contamination 6.4. for export, for example, export control orders 6.5. BFAD food and hygiene regulations 6.6. transport company requirements 6.7. importing country requirements 6.8. enterprise procedures: 6.8.1. hazard analysis and critical control point 6.8.2. food safety system.

VARIABLE	RANGE
7. Quality is enhanced by addressing:	7.1. bruising 7.2. crushing 7.3. freezer burn 7.4. rate of cooling 7.5. contact with cooling medium 7.6. identification of species 7.7. identification of packing date 7.8. packaging requirements.
8. Cooling medium:	8.1. ice 8.2. ice slurry 8.3. chilled brine 8.4. forced draught coolers 8.5. plate freezers 8.6. blast freezers.
9. Operating efficiency:	9.1. components monitored and de-iced: 9.2. evaporators 9.3. valves.
10. Handled:	10.1. according to stock or product rotation practices 10.2. using appropriate personal protective equipment 10.3. after using equipment for checking and improving air quality in the refrigeration system 10.4. using safe lifting practices.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate : 1.1. Maintained product quality and safety through correct temperature control, and monitored the critical temperature of seafood. 1.2. Assessment must confirm knowledge of: 1.2.1 food safety legislation requirements 1.2.2 appropriate temperatures 1.3 parameters that indicate seafood quality.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to perform work to the required standard include: 2.1 personal, workplace and product hygiene 2.2 principle of cooling product to optimize quality 2.3 temperature settings within storage facilities 2.4 cool chain principles and practices 2.5 characteristics, procedures and uses of cool rooms 2.6 quality changes that could take place if product or stock incorrectly handled/stored 2.7 storage methods relevant to different seafood products 2.8 correct storage temperature for a range of produce 2.9 occupational health and safety standards 2.10 relationship between seafood temperature and spoilage 2.11 methods of maintaining stability and watertight integrity when loading and unloading from vessels 2.12 planning the placement of seafood to aid loading and unloading 2.13 methods of ensuring effective temperature control using a variety of media.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standards include: 3.1 cleaning a temperature control system 3.2 using seafood containers 3.3 arranging seafood containers 3.4 monitoring temperature control system and seafood temperature 3.5 using documentation associated with the movement of seafood between locations 3.6 Using seafood handling practices: 3.7 safe lifting 3.8 hygiene. Literacy skills used for: 3.9 reading and writing product labels, inventories, invoices and receipts. Numeracy skills used for: 3.10 monitoring temperature.
4. Resource Implication	Resources may include: 4.1 temperature measuring equipment 4.2 facilities for handling seafood product 4.3 seafood containers 4.4 seafood 4.5 ice rooms 4.6 brine tanks 4.7 freezers.
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation / demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **WORK WITH TEMPERATURE CONTROLLED STOCK**

UNIT CODE : **AGR641326**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to store and retrieve temperature controlled stock from appropriate storage facilities.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Store stock to meet temperature control requirements	1.1 Goods requiring ***temperature*** control are identified 1.2 Goods are located in correct storage areas to meet storage temperature, stores handling and stock rotation requirements 1.3 Stores information is recorded according to ***workplace requirements***
2. Monitor and maintain temperature of stock within specifications	2.1 Stock temperature is monitored to confirm temperature is within specified limits 2.2 Storage areas are monitored to confirm temperature is within storage zone limits 2.3 Residence time in temperature controlled stores is monitored to meet stock control requirements 2.4 Out of specification storage temperatures are identified and corrective action is taken
3. Transfer temperature controlled stock	3.1 Goods are handled and transferred to maintain temperature control and meet stock rotation requirements 3.2 Stores transfer information is recorded according to workplace reporting requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. OH&S requirements may include:	1.1. OH&S legal requirements 1.2. Enterprise OH&S policies, procedures and programs
2. Work in carried out in accordance with regulations. Regulatory requirements may include:	2.1. Relevant regulations regarding food processing and food safety regulations 2.2. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 2.3. Environment Management Bureau regulations regarding emissions, waste treatment, noise and effluent treatment and control
3. Hygiene and sanitation requirements may include:	3.1. Department of Health – Food Establishments – Code of Sanitation of the Philippines (P.D.856) 3.2. Requirements set out by Bureau of Food and Drugs 3.3. Workplace requirements
4. Workplace requirements may include:	4.1. Work instructions 4.2. Standard operating procedures 4.3. OH&S requirements 4.4. Quality assurance requirements 4.5. Equipment manufacturers' advice 4.6. Material Safety Data Sheets 4.7. Codes of Practice and related advice
5. Temperature controlled stock and facilities may include:	5.1. Temperature controlled stock may include stock to be stored at a constant temperature and at different temperatures for given durations 5.2. Temperature controlled storage facilities include any controlled temperature environment

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidences that the candidate: 1.1. Accessed workplace information to determine product handling and storage requirements 1.2. Identified storage requirements including temperature limits, minimum duration at given temperatures, and segregation and co-storage requirements 1.3. Identified temperature controlled storage facilities and temperature zones available 1.4. Selected, fitted and used personal protective clothing and/or equipment 1.5. Used materials handling equipment in a temperature controlled environment as required to undertake work functions 1.6. Followed procedures to measure temperature of product. This can include use of instrumentation as required to take core and surface temperatures 1.7. Read instrumentation, such as temperature gauges, to monitor stores and zone temperatures 1.8. Identified and reported out-of-standard temperatures in product and storage facilities 1.9. Took corrective action in response to out-of-specification temperatures including implementation of procedures to segregate damaged or potentially unsafe product 1.10. Completed records of stock receival and transfer as required 1.11. Maintained work area to meet housekeeping standards
2. Underpinning Knowledge and Attitudes	2.1. OHS hazards and controls. This includes the purpose and limitations of protective clothing and equipment 2.2. Temperature controlled storage facilities and capacities available in the work area. This may include understanding of temperature zones within a single store and concepts such as the Cold Chain compliance as relevant to work requirements 2.3. Temperature control requirements of stock handled in the work area. This includes understanding of acceptable temperature ranges and consequences of failing to meet these ranges. It may also include requirements for gradual temperature change 2.4. Stock handling procedures for receiving and locating stock within a store including stock rotation and procedures for identifying, segregating, and disposing of damaged or potentially unsafe stock 2.5. Stock handling procedures for transferring temperature controlled stock from a temperature controlled environment. 2.6. Food safety and quality consequences of stock temperature control requirements not being met 2.7. Monitoring procedures and instrumentation. This includes use of thermometers or other temperature measuring instrumentation 2.8. Notification, recording and reporting requirements 2.9. Operating procedures for goods handling equipment as required 2.10. Housekeeping requirements for work area 2.11. Recording requirements and procedures

3. Underpinning Skills	3.1. Planning and organizing work (time management) 3.2. Working with others and in team
4. Resource Implication	The following resources should be provided: 4.1. Workplace location and access to workplace policies 4.2. Materials relevant to the proposed activity and tasks
5. Methods of Assessment	Competency should be assessed: 5.1. through direct observation / demonstration 5.2. portfolio
6. Context of Assessment	Assessment must occur in a real or simulated workplace where the candidate has access to: 6.1. personal protective clothing and equipment 6.2. work procedures including advice on safe work practices, food safety, quality and environmental requirements 6.3. temperature storage specifications 6.4. stock handling and rotation systems 6.5. controlled temperature storage facilities 6.6. stock requiring storage 6.7. load shifting equipment as required 6.8. stock information recording system and procedures.

UNIT OF COMPETENCY : **CONDUCT FIELD OBSERVATIONS**

UNIT CODE : **AGR641327**

UNIT DESCRIPTOR : This unit covers the skills and knowledge required to make observations in the field following the agency /organization's standard operating procedures. Observations could be for the purposes of surveilling, researching or monitoring cultural or natural resources.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Select appropriate equipment and technology for observation and recording purposes	1.1 The purpose of the ***field observations*** is identified and confirmed with the supervisor or team leader. 1.2 ***Nature and type of information*** to be collected are confirmed with the supervisor or team leader. 1.3 Any agency / organizational protocols or requirements for the recording of observations are identified and confirmed. 1.4 ***Equipment and technology*** appropriate for the field observation task is selected and checked for serviceability.
2. Conduct field observations	2.1 Equipment is used in a manner that facilitates observations being recorded that are accurate and effective for the intended purpose. 2.2 Sufficient and relevant information is collected from observations. 2.3 Observations are recorded in accordance with agency / organizational procedures. 2.4 Equipment is used in a manner that ensures the safety of self and others. 2.5 Security of equipment is ensured at all times.
3. Report on field observations	3.1 Report is prepared and collated, identifying any evidence of non-compliance, and presented in accordance with agency / organizational procedures. 3.2 Recorded observations are labelled and filed securely in accordance with agency /organizational procedures. 3.3 Queries arising from the report are answered in a timely manner.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Field observations:	surveillance of: 1.1. suspected illegal activities 1.2. vessel or vehicle movements 1.3. monitoring of: 1.4. marine resources 1.5. sacred and other cultural sites.
2. Nature and type of information:	measurements may include details such as: 2.1 quantity 2.2 size: length, breadth, depth and diameter 2.3 rate 2.4 frequency timing may include details such as: 2.5 time 2.6 day of week and month of year 2.7 season environmental factors may include details such as: 2.8 weather conditions 2.9 swell 2.10 phase of moon 2.11 tides and currents observable features may include details of: 2.12 vessel colour and shape 2.13 crew behaviour and dress 2.14 nationality 2.15 fish or marine fauna species 2.16 types of vessels and vehicles 2.17 equipment 2.18 signage 2.19 catch.
3. Equipment and technology:	3.1 video camera 3.2 still camera 3.3 audio recording device 3.4 radio 3.5 GPS 3.6 binoculars and telescope 3.7 maps and charts 3.8 satellite phone 3.9 night-vision gear.
4. Serviceability:	4.1 equipment start-up or operational checklists 4.2 maintenance logs 4.3 calibration or standardisation 4.4 test run 4.5 currency.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1. Conducted accurate and relevant field observations 1.2. Identified evidence of non-compliance 1.3. Employed / used a range of observation and recording equipment and techniques. Assessment must confirm knowledge of: 1.4. marine and fisheries management legislation relevant to the field observation task.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to perform work to the required standard include: 2.1 marine and fisheries management legislation relevant to the field observation task 2.2 culturally sensitive areas impacting on the field observation: 2.3 sacred and other culturally significant sites 2.4 cultural activity including the attitude, beliefs and values of local communities 2.5 environmental and community issues relating to natural resource management 2.6 basic operational requirements of equipment used for observation and recording 2.7 safety procedures and hazards associated with field observations 2.8 recording and reporting requirements.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standard include: 3.1 interpreting work plans 3.2 following agency/organizational work procedures 3.3 checking equipment and observation requirements to identify hazards, risks and controls 3.4 selecting, fitting and using appropriate personal protective clothing and equipment for the observation 3.5 using observation and recording equipment 3.6 communicating effectively with team members, the supervisor and the local community 3.7 recording observations in logbooks or in other appropriate formats 3.8 filing and securing recorded observations 3.9 preparing reports. Language and literacy skills used for: 3.10 reading maps, charts and signage 3.11 recording observations 3.12 developing and presenting reports. Numeracy skills used for: 3.13 making observations such as counting, measuring and estimating.
4. Resource Implication	Resources may include: 4.1 relevant procedures 4.2 relevant sources of information 4.3 recording forms 4.4 Observation and recording equipment.
5. Methods of Assessment	Competency should be assessed: 5.1 Through direct observation/demonstration 5.2 Portfolio
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

UNIT OF COMPETENCY : **MONITOR AND RECORD FISHING OPERATIONS**

UNIT CODE : **AGR641328**

UNIT DESCRIPTOR : This unit of competency covers the ability to be an observer with a designated fishing vessel as required, to validate logbook data and to collect other scientific information for research and resource management purposes. Observers generally work alone although they are required to work and live in a cooperative arrangement with the vessel crew during cruises.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Plan on-board work activities	1.1 Work activities are broken down into achievable components and efficient sequences. 1.2 Timing of activities is planned to suit fishing operations, conditions and crew routines. 1.3 Tasks and priorities are modified to suit changed circumstances or requests from the cruise master and crew. 1.4 Completion of activities is logged to confirm outputs. 1.5 Cooperation and engagement of vessel crew are sought by explaining the purpose of, and procedures for, information collection.
2. Conduct on-board observations of fishing operations	2.1 Vessel compliance with conditions of fishing permits and agreements is verified. 2.2 Accuracy and validity of vessel logbook records are checked. 2.3 Observation protocols and plans are followed under a range of work conditions. 2.4 Judgement is exercised to detect unusual or irregular events on board the vessel and when suggesting possible causes and effects. 2.5 All on-board safety procedures are followed. 2.6 Cooperative relationships are maintained with cruise master and crew to enhance the value of information obtained.
3. Record and report observations	3.1 Observations are recorded in the required format. 3.2 Regular radio or telephone communication is maintained with shore personnel in accordance with requirements. 3.3 On-shore reporting and post-cruise debriefing sessions are conducted as required.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Placement of observers on board:	1.1 foreign fishing vessels 1.2 Philippine registered vessels 1.3 tuna long lines 1.4 squid jiggers 1.5 trawl vessels 1.6 operations within Philippine fishing zones 1.7 operations on the high seas.
2. Compliance with conditions:	2.1 compliance with permits and agreements 2.2 conduct of fishing operations in approved areas 2.3 use of fishing equipment and gear approved for the fishery 2.4 maintenance of approved levels of fishing effort.
3. Range of work conditions:	3.1 short notice to travel 3.2 embarkation at any National port 3.3 varying durations of cruises, typically two weeks to two months 3.4 long, irregular hours on deck, typically working up to ten hours a day, seven days a week 3.5 isolation 3.6 unfamiliar customs and language 3.7 unfamiliar food 3.8 difficult work and sleeping conditions 3.9 transference between vessels at sea.
4. Observations:	4.1 long line: 4.2 time of set 4.3 quantities of bait 4.4 snood lengths 4.5 hook sizes 4.6 environmental conditions 4.7 presence of seabirds 4.8 tangles in setting bins 4.9 baits at surface 4.10 trawl: 4.10.1 time at hand 4.10.2 weight 4.10.3 quantity 4.10.4 percentage of bin 4.10.5 by-catch 4.10.6 gilled fish 4.11 other commercial fishing operations.
5. Unusual or irregular events:	5.1 law breaking or breach of permit conditions 5.2 by-catch 5.3 catch of sea birds and marine mammals 5.4 catch of unexpected species 5.5 unusual environmental conditions 5.6 unusual biological features of catch, including size, weight and age 5.7 inefficient fishing techniques (as an explanation of catch rates).

VARIABLE	RANGE
6. Safety procedures:	6.1 following all on-board safety procedures 6.2 minimizing risks 6.3 wearing personal protection and flotation equipment 6.4 locating a safe work area free from hazards 6.5 avoiding interfering with fishing operations 6.6 keeping crew informed of activities 6.7 communicating regularly with shore-based supervisors.

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidences that the candidate: 1.1 Employed quality information-collection processes that produce data that is valid and comparable to data from other sources 1.2 Followed the observation, data collection and sampling routines outlined in cruise plans 1.3 Identified relevant information and findings likely to be of interest for scientific and resource/environmental-management purposes 1.4 Engaged vessel crew in cooperating with the collection and interpretation of information 1.5 Coped with disruptions and changed circumstances by modifying work plans in consultation with relevant personnel 1.6 Identified non-standard events, data and samples and suggest possible causes and effects 1.7 Recorded and reported observations in appropriate formats and within the required timeframe. 1.8 Assessment must confirm knowledge of: 1.9 the National fishing industry, including fishing methods, equipment and major species 1.10 fisheries research methodologies and the importance of accurate, complete and comprehensive scientific data 1.11 fisheries and environmental management strategies 1.12 measurement and biological sampling techniques and other data collection methodologies designed to capture information of use to scientific research and fisheries management.
2. Underpinning Knowledge and Attitudes	The essential knowledge and understanding a person needs to perform work to the required standard include: 2.1 commercial fisheries and unique aspects relevant to the fishery, sector or geographic area 2.2 species, product, work regime and typical equipment used 2.3 fisheries management methodologies and associated data requirements 2.4 basic environmental management legislation, regulations and codes of practice relevant to the specific sector within the seafood industry 2.5 broad knowledge of ecologically sustainable development principles and practices 2.6 fisheries research methodologies and the application of scientific data 2.7 data collection, measurement and sampling methodologies 2.8 radio and telephone communication systems at sea 2.9 relationship of observation activities to fisheries management processes.
3. Underpinning Skills	The essential skills a person needs to perform work to the required standard include: 3.1 identifying a range of species, seafood/aquatic products, equipment and resources relevant to the industry, sector or geographic area 3.2 recording fishing activity, catch, effort and other relevant information according to set protocols and plans and in an accurate and detailed manner

	3.3 demonstrating capacity and judgement to identify unusual or irregular events and to suggest possible causes and effects that may have implications for fisheries research and management 3.4 estimating, measuring and sampling fishing operations and production. Literacy skills used for: 3.5 written and oral communication and liaison recording, reporting and debriefing on cruise activities 3.5 engaging vessel crew in cooperating with the collection and interpretation of information. Numeracy skills used for: 3.7 estimating catch and effort 3.8 measuring biological features of species and environmental conditions 3.9 conducting measurements and sampling of catch and other relevant variables.
4. Resource Implication	Resources may include relevant documentation such as: 4.1 observation procedures and protocols 4.2 data collection plans and recording forms.
5. Methods of Assessment	Competency should be assessed : 5.1. Through direct observation / demonstration 5.2. Portfolio
6. Context of Assessment	6.1 Assessment should be in a workplace. 6.2 Demonstration of competency over time and on a number of occasions.

SECTION 3 TRAINING STANDARDS

These guidelines are set to provide the Technical and Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **FISH CAPTURE (Municipal Fisherman) NC II**.

3.1 CURRICULUM DESIGN

Course Title: **FISH CAPTURE (Municipal Fisherman)** NC Level: **NC II**

Nominal Training Duration: **318 Hours**

Course Description:

This course is design to enhance the knowledge, skills and attitudes in **FISH CAPTURE (Municipal Fisherman) NC II** in accordance with industry standards. It covers Basic, Common and Core Competencies.

To obtain this, all units prescribed for this qualification must be achieved:

BASIC COMPETENCIES
18 Hours

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
1. Participate in workplace communication	1.1. Obtain and convey workplace information 1.2. Complete relevant work related documents 1.3. Participate in workplace meeting and discussion	▪ Group discussion ▪ Interaction	▪ Written test ▪ Practical/ performance test ▪ Interview
2. Work in a team environment	2.1. Describe and identify team role and responsibility in a team. 2.2. Describe work as a team member.	▪ Group discussion ▪ Interaction	▪ Observation ▪ Simulation ▪ Role playing
3. Practice career professionalism	3.1. Integrate personal objectives with organizational goals 3.2. Set and meet work problems 3.3. Maintain professional growth and development	▪ Group discussion ▪ Interaction	▪ Demonstration ▪ Observation ▪ Interviews/ questioning
4. Practice occupational health and safety	4.1. Evaluate hazards and risks 4.2. Control hazards and risks 4.3. Maintain occupational health and safety awareness	▪ Group discussion ▪ Plant tour ▪ Symposium	▪ Observation ▪ Interviews

COMMON COMPETENCIES
14 Hours

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
1. Apply safety measures in operations	1.1. Determine areas of concern for safety measures 1. 2. Apply appropriate safety measures 1. 3. Safekeep/maintain/ dispose tools, materials and outfit.	▪ Self-paced/ modular ▪ Lecture/ Discussion ▪ Interaction ▪ Practical Demonstration ▪ Visit/tour	▪ Oral/Written Interviews ▪ Direct Observation ▪ Practical Demonstration
2. Use farm tools and equipment	2.1. Prepare and use farm tools 2.2. Prepare and operate farm equipment 2.3. Perform preventive maintenance procedures/practices	▪ Self-paced/ modular ▪ Lecture/ Discussion ▪ Interaction ▪ Practical Demonstration ▪ Visit/tour	▪ Oral/Written Interviews ▪ Direct Observation ▪ Practical Demonstration
3. Perform estimation and basic calculation	3.1. Perform estimation 3.2. Perform basic workplace calculation 3.3. Apply corrective measures as necessary	▪ Self-paced/ modular ▪ Lecture/ Discussion ▪ Interaction ▪ Practical Exercise	▪ Oral/Written examination ▪ Practical exercise

MARITIME COMMON COMPETENCIES

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
1. Prevent and fight fire	1.1 Implement fire prevention measures and procedures on board a vessel. 1.2 Check the capability of fire detection and fire fighting equipment and system. 1.3 Initiate any required maintenance 1.4 Simulate on board fire fighting and search and rescue activities 1.5 Implement OHS principles and policies when carrying out fire fighting duties 1.6. Communicate effectively with others during fire emergencies	▪ Discussion ▪ Lecture ▪ Demonstration ▪ Simulation	▪ Observation ▪ Demonstration ▪ Practical performance
2. Protect marine environment	2.1 Simulate garbage disposal procedures 2.2 Simulate garbage segregation 2.3. Record garbage segregation and disposal	▪ Discussion ▪ Lecture ▪ Demonstration ▪ Simulation	▪ Observation ▪ Demonstration ▪ Practical performance
3. Comply with emergency procedures	3.1 Simulate correct action on becoming aware of an emergency in accordance with vessel procedures 3.2 Simulate emergency procedures and contingency plans 3.3. Simulate procedures for the use of various survival equipment	▪ Discussion ▪ Lecture ▪ Demonstration ▪ Simulation	▪ Observation ▪ Demonstration ▪ Practical performance

CORE COMPETENCIES
286 Hours

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
Vessel Operations			
1. Operate a vessel of up to 3 GT	1.1. Prepare the small vessel for use. 1.2. Apply safety precautionary measures in operating vessel up to 3 GT. 1.3. Manoeuvre a small vessel while engaged in common tasks. 1.4. Maintain a small vessel 1.5 Repair and maintain a small vessel, materials, tools, and equipment. 1.6. Store and secure a small vessel, materials, tools and equipment 1.7. Make report on work carried out.	▪ Lecture ▪ Discussion ▪ Practical Demonstration ▪ Field Trips ▪ Exercises	▪ Operational Readiness Evaluation (ORE)/drills ▪ Oral interview ▪ Written examination
2. Monitor condition and seaworthiness of a vessel	2.1. Monitor and evaluate the condition and seaworthiness of a small vessel under normal and emergency situations 2.2. Exercise all required safety, environmental and hazard control precautions and procedures during inspection and maintenance operations 2.3. Report and take appropriate preventive and remedial(repair) action to maintain the security and watertight integrity of the vessel's hull	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Practical demonstration ▪ Direct observation ▪ Oral interview ▪ Questioning
3. Perform routine maintenance tasks on a small coastal vessel	3.1. Prepare materials, tools and equipment. 3.2. Perform basic deck maintenance 3.3. Carry out cleaning activities 3.4. Select and apply appropriate paint systems for areas aboard a vessel 3.5. Report and take appropriate remedial action on problems in paint applications. 3.6. Check and perform basic maintenance on deck fittings, equipment and systems 3.7. Exercise all required safety,	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Oral interview ▪ Practical demonstration ▪ Direct observation ▪ Practical assignments

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
	environmental and hazard control precautions and procedures 3.8. Repair and maintain materials, tools and equipment 3.9. Store and secure materials, tools and equipment 3.10. Make report on work carried out.		
4. Operate and troubleshoot low powered marine diesel engines	4.1. Ensure that preparations for the operations are complete 4.2. Operate, initiate start up and shut down operations of low powered diesel engines 4.3. Maintain output of low powered diesel engines 4.4. Maintain steady running of the engine and comply with alarm acceptance procedures 4.5. Carry out adjustment and regulation of engine, including to achieve optimal fuel efficiency 4.6. Carry out alteration of output as required 4.7. Respond to irregularities 4.8. Exercise all required safety, environmental and hazard control precautions and procedures 4.9. Troubleshoot engine faults and perform minor repair 4.10. Make report on work carried-out.	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Oral interview ▪ Direct observation ▪ Operational readiness evaluation
5. Apply weather information when navigating a vessel	5.1. Obtain and decipher weather and oceanic information 5.2. Apply weather and oceanographic data to safe navigation 5.3. Maintain records of weather oceanographic information and forecasts	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Practical demonstration ▪ Direct observation ▪ **Oral interview** ▪ Questioning
6. Contribute to safe navigation	6.1. Contribute to monitoring and controlling a navigational watch 6.2. Maneuver the vessel 6.3. Exercise all required safety and hazard control procedures 6.4. Identified typical problems	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Practical demonstration ▪ Direct observation ▪ **Oral interview** ▪ Questioning

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
	and take appropriate action		
Seafood storage, receival, transport and distribution			
7. Apply basic food handling and safety practices	7.1. Identify, assess, report and control common hazards and risks to seafood and aquatic product 7.2. Follow enterprise hygiene standards, procedures and practices 7.3. Handle and store seafood and aquatic product 7.4. Follow the enterprise food safety program 7.5. Take corrective actions as needed. 7.6. Make complete recording/reporting requirements	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	Written or oral short-answer test Practical exercises/ case studies ▪ Direct observation
Fishing operations			
Combination 1: Beach seining, mesh or gill netting			
8. Adjust and position beach seines, mesh nets or gill nets	8.1. Organize a work area to adjust beach seines, mesh nets or gill nets 8.2. Prepare materials, tools and equipment needed 8.3. Make adjustments, reconditioning or constructions to all aspects of beach seining or gill netting gear to optimize performance 8.4. Describe and identify the indicators of sub-optimal performance of beach seine, mesh net or gill net components 8.5. Position beach seines, mesh nets or gill nets to optimize catch 8.6. Maintain, adjust and position the vessel and gear during deployment, fishing and retrieval of beach seines, mesh nets or gill nets in order 8.7. Exercise all required safety, environmental and hazard control precautions and procedures 8.8. Make report on work carried-out	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Direct observation ▪ Oral interview

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
9. Maintain, prepare, deploy and retrieve mesh nets or gill nets to land catch	9.1. Maintain and prepare beach seines, mesh nets or gill nets ready for deployment 9.2. Prepare, deploy and retrieve common gear components 9.3. Deploy beach seines, mesh nets or gill nets 9.4. Retrieve the beach seine, mesh net or gill net 9.5. Land, contain and sort the catch 9.6. Lash ground gear and/or flotation 9.7. Repair all aspects of gear and renew damaged netting 9.8. Exercise all required safety, environmental and hazard control precautions and procedures	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ **Exercises**	▪ Direct observation ▪ Oral interview
Combination 2: Hand-line fishing			
10. Adjust and position hand operated lines	10.1. Organize a work area to adjust hand operated lines 10.2. Prepare materials, tools and equipment needed 10.3. Make adjustment, reconditioning or construction to all aspects of hand operated line fishing gears 10.4. Describe and identify the indicators of sub-optimal performance of hand operated line 10.5. Monitor and alter position of hand operated lines 10.6. Place a line at a predetermined position in the presence of a moderate current 10.7. Exercise all required safety, environmental and hazard control precautions and procedures 10.8. Determine productive grounds and water in response to information from various sources 10.9. Make report on work carried out.	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ **Exercises**	▪ Direct observation ▪ Oral interview

COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
11. Maintain, prepare, deploy and retrieve hand operated lines to land catch	11.1. Prepare and maintain hand operated lines ready for deployment 11.2. Deploy hand operated lines 11.3. Retrieve hand operated lines 11.4. Land, contain and sort the catch 11.5. Renew and repair damaged gear components 11.6. Exercise all required safety, environmental and hazard control precautions and procedures	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ **Exercises**	▪ Direct observation ▪ Oral interview
Combination 3: Post and traps			
12. Adjust and position pots and traps	12.1. Organize a work area to adjust traps and pots 12.2. Make adjustments, reconditioning or construction to all aspects trap and pot components to optimize catch 12.3. Maneuver and position traps and pots 12.4. Maintain, adjust and position the vessel during deployment 12.5. Determine productive ground 12.6. Exercise all required safety, environmental and hazard control precautions and procedures	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Direct observation ▪ Oral interview
13. Maintain, prepare, deploy and retrieve pots and traps to land catch	13.1. Prepare and Maintain traps and pots ready for deployment 13.2. Deploy traps and pots 13.3. Retrieve traps and pots 13.4. Land, contain and sort the catch 13.5. Renew and repair damaged gear components 13.6. Exercise all required safety, environmental and hazard control precautions and procedures	▪ Lecture ▪ Discussion ▪ Practical demonstration ▪ Field trips ▪ Exercises	▪ Direct observation ▪ Oral interview

3.2 TRAINING DELIVERY

The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of competency-based TVET.

- The training is based on curriculum developed from the competency standards;
- Learning is modular in its structure;
- Training delivery is individualized and self-paced;
- Training is based on work that must be performed;
- Training materials are directly related to the competency standards and the curriculum modules;
- Assessment is based in the collection of evidence of the performance of work to the industry required standard;
- Training is based both on and off-the-job components;
- Allows for recognition of prior learning (RPL) or current competencies;
- Training allows for multiple entry and exit; and
- Approved training programs are Nationally Accredited

The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:

- The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations.
- Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer just facilitates the training delivery.
- Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners.
- Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations.
- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video or computer technologies.

3.3 TRAINEE ENTRY REQUIREMENTS

Trainees or students should possess the following requirements:

- can communicate both in oral and written;
- physically and mentally fit;
- with good moral character; and
- can perform basic mathematical computation.

This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program.

Mandatory requirements for Graduation:

Graduates of this course are required to undergo mandatory assessment before graduation.

3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

FISH CAPTURE (MUNICIPAL FISHERMAN) NC II

Recommended list of tools, equipment and materials for the training of 25 trainees for Fish Capture NC II are as follows:

QTY.	TOOLS	QTY.	EQUIPMENT	QTY.	MATERIALS
10	calculator	2	Beach seine	Beach/mesh/gill Net components:	
2	water temperature measuring device	2	Mesh net		▪ sweeps
1	Positioning device	2	Gill net		▪ netting material
10	thermometer	1	Echo-sounder		▪ hangings
2 sets	Communications equipment / radio	1	Fish finder		▪ flotation devices
2 sets	hand tools, including:	1	sonar		▪ ballast
	▪ chipping hammer	2	rod and reel		▪ flags
	▪ scraper	2	trolling gear		▪ buoys
2 sets	electric power tools, such as:	2	squid jigging machine		▪ droppers
	▪ grinders	2	hand reel		▪ Clips
	▪ sanders	1	power operated winch		▪ bridles
	▪ drills	1	hand operated winch		▪ by-catch reduction device
1 set	pneumatic power tools, such as:	5	hand lines	Hand line components:	
	▪ grinders	1	position fixing equipment		▪ nylon monofilament line
	▪ sanders	2	lobster pots		weighted hand line
	▪ drills	2	fish traps		▪ hooks
2 sets	marine preservative finish tools, such as:	2	octopus traps		bait and burley
	▪ brush	2 sets	distress signalling devices, including:		sinkers
	▪ spray gun		▪ Water flares		▪ lures
	▪ roller		▪ Flags		▪ jigs
2 sets	rinsing and storing equipment		▪ signaling mirrors	Pot and trap components:	
			▪ flashlight		flag poles
		2 units	Marine diesel engine (from 5 to 20 HP), with:		dan buoys
			fuel, such as diesel oil/marine diesel oil		Radar reflectors
			coolant		floats
			lubrication		lines
			purification, transfer and		bridles

QTY.	TOOLS	QTY.	EQUIPMENT	QTY.	MATERIALS
			storage		
			control		toggles
			starting and stopping		lashings
			▪ battery power generation and use.		ballast
		5 sets	personal protection clothing, such as:		bait holding device
			▪ eye and ear protection		bait
			safety boots		radio transponder
			▪ dust and fume masks		light
			▪ headgear		
			gloves		

3.5 TRAINING FACILITIES

Fish Capture (Municipal Fisherman) NC II

The Fish Capture Learning Facility must be of concrete structure. Based on a class intake of 25 students/trainees, the space requirements for the teaching / learning and curriculum areas are as follows.

Space Requirement	Size in Meters	Area in Sq. Meters	Total Area in Sq. Meters
A. Building (permanent)			170.3
Student/Trainee Working Space	2.00 x 2.00 per student/trainee	4.00 per student	100.00
Learning Resource Center	3.00 x 5.00	15.00	15.00
Facilities/Equipment /Circulation (30% of teaching accommodation)			39.30
Store Room	4.00 x 4.00	16.00	16.00
B. Fishing Vessel (3 GT) or Experimental Deck Area, with:			4.00
cargo / storage areas or Fish chutes			
• Fish treatening area			
Total Area			344.60

Note: Experimental area will change according to availability of land.

3.6 TRAINER'S QUALIFICATIONS FOR AGRI-FISHERY SECTOR – FISH CAPTURE (MUNICIPAL FISHERMAN) NC II TRAINER QUALIFICATION I (TQ II)

- Must be a holder of NC III
- Must have undergone training on Training Methodology II (TM II)
- Must be physically and mentally fit
- *Must have at least 2-3 years job/industry experience on supervisory/managerial level

* Optional. Only when required by the hiring institution.

Reference: TESDA Board Resolution No. 2004 03

3.7 INSTITUTIONAL ASSESSMENT

Institutional Assessment is to be undertaken by the learner who enrolled in a structured learning program to determine their achievement of competencies. It is administered by the trainer/assessor at end of each learning module.

SECTION 4 NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS

4.1. To attain the National Qualification of **Fish Capture NC II,** the candidate must demonstrate competence through project type assessment covering all the units listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.

4.2. The qualification of Fish Capture NC II may be attained through:

4.2.1 Accumulation of Certificates of Competency (COCs) in the following areas:

4.2.1.1 Operate a vessel of up to 3.0 GT
4.2.1.2 Monitor condition of seaworthiness of a vessel
4.2.1.3 Perform routine maintenance tasks on a small coastal vessel
4.2.1.4 Operate and troubleshoot low powered marine engine
4.2.1.5 Apply weather information when navigating a vessel
4.2.1.6 Contribute to safe navigation
4.2.1.7 Apply basic food handling and safety practices

Plus two (2) Core Competencies on the use of fishing tools / equipment from any one of the following combinations listed below:

Combination 1
4.2.1.8 Adjust and position beach seines, mesh nets or gill nets
4.2.1.9 Maintain,prepare, deploy and retrieve beach seines, mesh nets or gill nets to land catch

Combination 2
4.2.1.10 Adjust and position hand operated lines
4.2.1.11 Maintain, prepare, deploy and retrieve hand operated lines to land catch

Combination 3
4.2.1.12 Adjust and position pots and traps
4.2.1.13 Maintain, prepare, deploy and retrieve pots and traps to land catch

Successful candidates shall be awarded Certificates of Competency (COCs).

4.3. Upon accumulation and submission of all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued the corresponding National Certificate.

4.4. Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.

4.5. Elective units may be selected from the list below depending on workplace requirements and/or specialization. To increase flexibility and enhance employability, elective units of competency may also be chosen from any other promulgated Training Regulations at the same NC level or one level higher (NC III), including Fish Capture NC III. Certificates of Competency shall be issued for each additional unit undertaken. The candidate however may be awarded the qualification of Fish Capture NC II based on the accumulation of core units as specified in **4.2.1**., even without these electives:

4.5.1. Load and unload goods / cargo
4.5.2. Assemble and repair damaged netting

4.5.3. Implement the food safety program and procedures
4.5.4. Keep record for a municipal fishing business
4.5.5. Apply basic first aid
4.5.6. Operate and maintain marine outboard motors
4.5.7. Transmit and receive information by marine radio or telephone
4.5.8. Perform breath hold diving operations
4.5.9. Assemble and load refrigerated product
4.5.10. Shift a load using manually-operated equipment
4.5.11. Maintain the temperature of seafood
4.5.12. Work with temperature controlled stock
4.5.13. Conduct field observations
4.5.14. Monitor and record fishing operations

4.6. The following are qualified to apply for assessment and certification:

4.6.1 Graduates of formal, non formal and informal including enterprise-based training programs.

4.6.2. Experienced workers (wage employed or self-employed)

4.7. The guidelines on assessment and certification are discussed in detail in the Procedures manual on Assessment and Certification and Guidelines on the implementation of the Philippine TVET Qualification and Certification System (PTQCS).

COMPETENCY MAP FOR AGRI-FISHERY SECTOR
FISH CAPTURE SUB-SECTOR

CORE UNITS OF COMPETENCY

Maintain the temperature of seafood	Maintain , prepare, deploy and retrieve purse seines to land catch	Assemble and repair damaged netting	Conduct field operations	Manage and control fishing operations
Implement the food safety program and procedures	Monitor condition and seaworthiness of a vessel	Clean work area	Record information about the country	Construct nets and customize design
Load and unload goods and cargo goods	Perform routine maintenance tasks on a small coastal vessel	Maintain the temperature of seafood	Contribute to at sea processing of seafood	Locate fishing grounds and stocks of fish
Assemble and repair damaged netting	Operate low powered marine diesel engine	Adjust & position drop lines and long lines	Maintain, prepare, deploy and retrieve mesh nets or gill nets to land catch	Monitor the implementation of quality and food safety programs
Apply deckhand skills aboard a fishing vessel	Apply basic food handling and safety practices	Maintain, prepare, deploy and retrieve drop lines and long lines to land catch	Perform routine housekeeping duties on board a vessel	Implement quality systems and procedures
Apply basic first aid	Maintain, prepare, deploy and retrieve pots and traps to land catch	Apply weather information when navigating a vessel	Adjust and position purse seines	Keep records for a municipal fishing business
Adjust and position pots and traps	Adjust and position hand operated lines	Contribute to safe navigation	Conduct food safety audits	Operate machinery in adverse conditions
Operate a vessel up to 3.0 GT	Adjust and position beach seines, mesh nets or grill nets	Maintain, prepare, deploy and retrieve hand operated lines to land catch	Analyze and report on board observation	Operate refrigerated storerooms
Collect reliable scientific data and samples	Perform diving operations using self contained underwater breathing apparatus	Transport, handle and store chemicals	Establish and manage effective external relationships	Wholesale product
Implement OHS policies and guidelines	Perform breath hold diving operations	Scuba dive in open water to a maximum dept of 18 meters	Manage and control fishing operations	Adjust and position hand operated lines

Continuation ….. Competency Map for Agri Fishery Sector (Fish Capture Sub-Sector)

COMPETENCY MAP FOR AGRI-FISHERY SECTOR
FISH CAPTURE SUB-SECTOR

CORE UNITS OF COMPETENCY

Maintain the temperature of seafood	Perform compressions chamber diving operations	Undertake emergency procedures in diving operations using surface supplied breathing apparatus	Oversee the implementation of a food safety program in the workplace	Follow basic food safety practices
Oversee and undertake effluent and waste treatment and disposal	Perform diving operations using surface supplied breathing apparatus	Work effectively as a diver in the seafood industry	Evaluate a batch of seafood	Develop food safety programs
Collect routine fishery management data	Apply and prepare chemicals	Establish and maintain the enterprise OHS programs	Monitor the implementation of quality and food safety programs	Locate fishing ground and stocks of fish
Implement environmental policies and procedures	Provide support for diving operations	Manage environmental performance	Prepare work instructions for new tasks	Provide practical and / or commercial advice to seafood users
Monitor and record fishing operations	Work with temperature controlled stock	Supervise maintenance of machinery and equipment	Export product	Cook on board a vessel
Participate in a HACCP Team	Undertake emergency procedures in diving operations using self contained underwater breathing apparatus	Apply and monitor food safety requirements	Operate a small vessel	Perform breath hold diving operations

Continuation ….. Competency Map for Agri Fishery Sector (Fish Capture Sub-Sector)

COMPETENCY MAP FOR AGRI-FISHERY SECTOR
FISH CAPTURE SUB-SECTOR

COMMON UNITS OF COMPETENCY

Apply safety measures	Use farm tools and equipment	Perform estimation and calculation	Apply Food Safety and Sanitation	
Comply with emergency procedures	Prevent and fight fire	Protect marine environment	Perform first aid treatment on board	Perform survival techniques during ship abandonment
Launch survival craft and techniques	Conduct shipboard security checks			

BASIC UNITS OF COMPETENCY

Receive and Respond to Workplace Communication	Participate in Workplace Communication	Lead Workplace Communication	Utilize specialist communication	Develop Team and Individual
Work With Others	Work in a Team Environment	Lead Small Team	Solve Workplace Problems Related to Work Activities	Apply Problem Solving Techniques in the Workplace
Demonstrate work values	Practice career professionalism	Practice occupation health and safety procecures	Practice housekeeping procedures	Plan and Organize Work

DEFINITION OF TERMS

For the purpose of this standard, the word

- **Accident** – unwanted incidents involving injury or damage to life, the environment, the ship or cargo
- **Anchor**– a heavy forging or casting comprising a shank with shackles or ring at one end and two arms with palms at the other, so shaped as to grip the sea bottom, by means of cable or rope hold a boat / ship regardless of wind and current
- **Ballast** – a quantity of iron, stone, gravel or other weighty substance like (water, oil, etc) placed in the lower hold of the boat/ship to increase stability by lowering the center of gravity.
- **Beach seine** – fishing gear using a seine net and employed along the coastline
- **Bend** – a knot by which one rope is fastened to another to some object.
- **Bilge** – a place in the lower part of the boat / ship where waste water collects and which bilge suctions are placed for pumping out
- **Boat** – a small open craft propelled by oars sails, or some form of engine. This term also applied to a larger boats built to navigate rivers and inland waters.
- **Capstan** – a machine for moving or raising heavy weights and consist of a vertical drum that can be rotated and around which cable is turned
- **Deck** – a platform in a ship that is structural element and forming the floor for its compartment
- **Deckhand**– a seaman who perform manual and other duties on board a vessel
- **Fish capture** – the taking of fishery species by passive or active gear for trade, business or profit beyond subsistence or sport fishing and classified further as follows:

  Small scale commercial fishing – fishing utilizing fishing vessels of 3.1 gross tons (GT) up to 20 GT
  Medium scale commercial fishing – fishing utilizing fishing vessels of 20.1 GT up to 150 GT; and
  Large scale commercial fishing – fishing utilizing fishing vessel of more than 150 GT
  Fishing gear – fishing equipment and paraphernalia

- **Fish fighting equipment** – equipment use to extinguish fire as per type.
- **Fish trap** – Locally called panggal, is a set trap or enticing device made of bamboo or rattan which is a regular. Usually rectangular, receptacle preventing escape of fishy by means of trap doors or tricky passageways. Trapped fish may be collected at regular intervals, in terms of days or week.
- **Gill / Mesh Net** – variously sized entangling net in which capture of fish is by the gilling effected by the actual meshes of the net. With small buoys and small weights, the net is positioned either as bottom set or drifting. This is commonly referred to by loacals as pukot-doble, pukot-triple, pukot paapong (with light).
- **Hitch**– any of various knots used to form a temporary noose in a line or to secure a line temporarily to an object
- **Knot** – the interlacement of the parts of one or more flexible bodies forming a ump or knob
- **Life saving appliances –** are outfits designed for life preservation
- **Mooring** – a act of making fast a boat with lines or anchor
- **Municipal Fisherman –** a person who is directly or indirectly engaged in fishing and other

related fishing activities within municipal waters using fishing vessels of three (3) gross tons or less.

- **Municipal Waters –** include not only streams, lakes, inland bodies of water and tidal waters within the municipality which are not included within the protected areas as defined under Republic Act No. 7856 (The NIPAS Law), public forest, timber lands, forest reserves or fishery reserves, but also marine waters included between two (2) lines drawn perpendicular to the general coastline from points where the boundary lines of the municipality touch the sea at low tide and a third line parallel with the general coastline including offshore island and fifteen (15) kilometers from such coastline. Where two (2) municipalities are so situated on opposite shores that there is less than thirty (30) kilometers of marine waters between them, the third line shall be equally distant from the opposite shore of the respective municipalities (RA 8550, Philippine Fisheries Code of 1997)
- **Netting** – fishing gear component made of open meshed fabric
- **Seaworthiness** – refers to the ability of a boat / ship to withstand the action of the sea, wind and weather
- **Single hook and line –** also called simple hand line or drop line. A single vertical line carrying one or two barbed baited hooks and worked simply by dropping into the water and waiting for a fish to bite. Generic local name is pasol or subid. Also called by various names, most often after the most dominant species in the catch, such as manubid-pamarilis, pambaca, pamirit, pangaraw, palutao (ulang), pamato, pamariles (deep-sea pangtangigue, pawin, subid, undak (with light). Hook sizes range from #06-#20 to #566-#571 while filament size varies from nylon #8 to #190.
- **Winch** – any of various machines or instruments for pulling or hauling, with one or more drums on which to coil a rope, cable or chain.
- **Windlass** - a steam or electric winch with horizontal or vertical shaft and two drums used to raise a ship's anchor.

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