

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: 18 Hours (Basic)
14 Hours (Common)
286 Hours (Core)
318 Hours (Total)

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

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	<ul style="list-style-type: none">• Group discussion• Interaction	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• Group discussion• Interaction	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Group discussion• Interaction	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • Group discussion • Plant tour • Symposium 	<ul style="list-style-type: none"> • Observation • Interviews
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COMMON COMPETENCIES

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.	<ul style="list-style-type: none"> • Self-paced/modular • Lecture/Discussion • Interaction • Practical Demonstration • Visit/tour 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Self-paced/modular • Lecture/Discussion • Interaction • Practical Demonstration • Visit/tour 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Self-paced/modular • Lecture/Discussion • Interaction • Practical Exercise 	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Discussion • Lecture • Demonstration • Simulation 	<ul style="list-style-type: none"> • Observation • Demonstration • Practical performance

	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		
2. Protect marine environment	2.1 Simulate garbage disposal procedures 2.2 Simulate garbage segregation 2.3. Record garbage segregation and disposal	<ul style="list-style-type: none"> • Discussion • Lecture • Demonstration • Simulation 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Discussion • Lecture • Demonstration • Simulation 	<ul style="list-style-type: none"> • Observation • Demonstration • Practical performance

CORE COMPETENCIES

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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical Demonstration • Field Trips • Exercises 	<ul style="list-style-type: none"> • Operational Readiness Evaluation (ORE)/drills • Oral interview • Written examination

	<p>1.5 Repair and maintain a small vessel, materials, tools, and equipment.</p> <p>1.6. Store and secure a small vessel, materials, tools and equipment</p> <p>1.7. Make report on work carried out.</p>		
2. Monitor condition and seaworthiness of a vessel	<p>2.1. Monitor and evaluate the condition and seaworthiness of a small vessel under normal and emergency situations</p> <p>2.2. Exercise all required safety, environmental and hazard control precautions and procedures during inspection and maintenance operations</p> <p>2.3. Report and take appropriate preventive and remedial(repair) action to maintain the security and watertight integrity of the vessel's hull</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Practical demonstration • Direct observation • Oral interview • Questioning
3. Perform routine maintenance tasks on a small coastal vessel	<p>3.1. Prepare materials, tools and equipment.</p> <p>3.2. Perform basic deck maintenance</p> <p>3.3. Carry out cleaning activities</p> <p>3.4. Select and apply appropriate paint systems for areas aboard a vessel</p> <p>3.5. Report and take appropriate remedial action on problems in paint applications.</p> <p>3.6. Check and perform basic maintenance on deck fittings, equipment and systems</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Oral interview • Practical demonstration • Direct observation • Practical assignments

	<p>3.7. Exercise all required safety, environmental and hazard control precautions and procedures</p> <p>3.8. Repair and maintain materials, tools and equipment</p> <p>3.9. Store and secure materials, tools and equipment</p> <p>3.10. Make report on work carried out.</p>		
4. Operate and troubleshoot low powered marine diesel engines	<p>4.1. Ensure that preparations for the operations are complete</p> <p>4.2. Operate, initiate start up and shut down operations of low powered diesel engines</p> <p>4.3. Maintain output of low powered diesel engines</p> <p>4.4. Maintain steady running of the engine and comply with alarm acceptance procedures</p> <p>4.5. Carry out adjustment and regulation of engine, including to achieve optimal fuel efficiency</p> <p>4.6. Carry out alteration of output as required</p> <p>4.7. Respond to irregularities</p> <p>4.8. Exercise all required safety, environmental and hazard control precautions and procedures</p> <p>4.9. Troubleshoot engine faults and perform minor repair</p> <p>4.10. Make report on work carried-out.</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • 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 and take appropriate action	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Practical demonstration • Direct observation • Oral interview • Questioning
Seafood storage, receipt, transport and distribution			
COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	Written or oral short-answer test Practical exercises/case studies <ul style="list-style-type: none"> • Direct observation

Fishing operations			
COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
Combination 1: Beach seining, mesh or gill netting			
8. Adjust and position beach seines, mesh nets or gill nets	<p>8.1. Organize a work area to adjust beach seines, mesh nets or gill nets</p> <p>8.2. Prepare materials, tools and equipment needed</p> <p>8.3. Make adjustments, reconditioning or constructions to all aspects of beach seining or gill netting gear to optimize performance</p> <p>8.4. Describe and identify the indicators of sub-optimal performance of beach seine, mesh net or gill net components</p> <p>8.5. Position beach seines, mesh nets or gill nets to optimize catch</p> <p>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</p> <p>8.7. Exercise all required safety, environmental and hazard control precautions and procedures</p> <p>8.8. Make report on work carried-out</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Direct observation • Oral interview
9. Maintain, prepare, deploy and retrieve mesh nets or gill nets to land catch	<p>9.1. Maintain and prepare beach seines, mesh nets or gill nets ready for deployment</p> <p>9.2. Prepare, deploy and retrieve common gear components</p> <p>9.3. Deploy beach seines, mesh nets or gill nets</p> <p>9.4. Retrieve the beach seine, mesh net or gill net</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Direct observation • Oral interview

	<p>9.5. Land, contain and sort the catch</p> <p>9.6. Lash ground gear and/or flotation</p> <p>9.7. Repair all aspects of gear and renew damaged netting</p> <p>9.8. Exercise all required safety, environmental and hazard control precautions and procedures</p>		
Combination 2: Hand-line fishing			
10. Adjust and position hand operated lines	<p>10.1. Organize a work area to adjust hand operated lines</p> <p>10.2. Prepare materials, tools and equipment needed</p> <p>10.3. Make adjustment, reconditioning or construction to all aspects of hand operated line fishing gears</p> <p>10.4. Describe and identify the indicators of sub-optimal performance of hand operated line</p> <p>10.5. Monitor and alter position of hand operated lines</p> <p>10.6. Place a line at a predetermined position in the presence of a moderate current</p> <p>10.7. Exercise all required safety, environmental and hazard control precautions and procedures</p> <p>10.8. Determine productive grounds and water in response to information from various sources</p> <p>10.9. Make report on work carried out.</p>	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Direct observation • Oral interview

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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • 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. Manoeuvre 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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Lecture • Discussion • Practical demonstration • Field trips • Exercises 	<ul style="list-style-type: none"> • Direct observation • Oral interview
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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:

TOOLS		EQUIPMENT		MATERIALS	
QTY	DESCRIPTION	QTY	DESCRIPTION	QTY	DESCRIPTION
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 storage		bridles
			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 treating 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.

The result of the institutional assessment may be considered as an evidence for national assessment