



FISH CAPTURE OPERATION

TECHNICAL-PROFESSIONAL

Grade 12

**Three-Term Budget Of Work (BOW)
for Learning Competencies**

**TECHNICAL-PROFESSIONAL
AGRI-FISHERY BUSINESS AND FOOD INNOVATION
Grade 12**

**Three-Term Budget Of Work
For Learning Competencies**

Please note that each TechPro elective is completed in one term if delivered at Grade 12.

Elective	Fish Capture Operation
Prerequisite	None

Performance Standard	The learners perform safe navigation applying the weather information in a simulated environment
Content Standard	The learners demonstrate an understanding of the overview of fish capture, legal bases in protecting the marine environment, tools, materials, and equipment in fish capture operations and safe navigation information.

Week	Learning Competency	Suggested Activities
1	Discuss the overview of fish capture	Fish Capture and Legal Frameworks Day 1 – Overview of Fish Capture Learning Activities: Lecture-discussion: Definition, importance, and types of fish capture Discuss different fishing methods: handline, netting, trap, small-scale hook-and-line

Week	Learning Competency	Suggested Activities
		• Video or pictures showing municipal fishing operations • Group Activity: Identify commonly used fish capture methods in your locality Day 2 – Types of Fishing Operations Learning Activities: • Discuss small-scale vs commercial fishing • Identify the target species for municipal fishing Activity: Classify fishing operations by method, species, and scale Short quiz: Basic concepts of fish capture
	• Discuss the legal frameworks and regulations that protect the marine environment	Day 3 – Legal Frameworks and Environmental Protection Learning Activities: • Lecture: Fisheries laws and regulations (Philippine Fisheries Code, RA 8550; other relevant laws) • Discuss marine protected areas, closed seasons, gear restrictions • Activity: Case study – identify violations and suggest corrective measures • Group discussion: Importance of environmental protection in sustainable fisheries

Week	Learning Competency	Suggested Activities
		Day 4 – Environmental Regulations in Practice Learning Activities: • Show examples of regulations applied in local municipal fishing • Activity: Create a checklist of legal and sustainable fishing practices • Reflection: How laws help maintain fish stocks and ecosystem balance.
2	• Discuss tools, materials, equipment, and safety practices in municipal fishing operations	Tools, Safety, and Navigation Day 5 – Fishing Tools, Materials, and Equipment Learning Activities: • Lecture: Common tools and gear in municipal fishing (nets, lines, traps, boats, small engines) • Demonstration or pictures: Proper handling of equipment • Activity: Identify and classify fishing tools by function Day 6 – Safety Practices in Fishing Operations Learning Activities: • Discuss occupational hazards in fishing • Demonstrate proper use of Personal Protective Equipment (PPE) and boat safety measures • Activity: Prepare a safety checklist for municipal fishing operations

Week	Learning Competency	Suggested Activities
		• Short quiz: Safety rules and hazard prevention
	• Apply weather information when navigating vessels in a simulated environment	Introduction to Weather Information in Navigation Learning Activities: • Lecture: Basic weather parameters affecting fishing (wind, waves, tide, storm signals) • Discuss sources of weather information (Philippine Atmospheric, Geophysical, and Astronomical Services Administration – PAGASA) • Activity: Interpret sample weather reports for small-scale fishing Day 8 – Simulated Navigation Using Weather Data Learning Activities: • Hands-on / simulation activity: Plot a simple fishing route using weather information • Apply weather data to plan safe departure and return • Performance Task: Demonstrate safe navigation planning based on simulated weather report • Reflection: Importance of weather awareness in safe fishing

Suggested Performance Tasks	Individual Performance Task: Sustainable Fishing Operations Portfolio • Objective: Demonstrate understanding of fish capture methods, fisheries laws and regulations, fishing tools and equipment, safety practices, and the use of weather information in municipal fishing operations. • Instructions: Prepare an individual portfolio entitled "Sustainable Fishing Operations Guide." The portfolio should include a brief discussion of fish capture methods, a summary of relevant fisheries laws and environmental regulations, a classification of common fishing tools and equipment, a safety checklist, an interpretation of a sample weather report, and a short reflection on the importance of safe, legal, and sustainable fishing practices. Submit the portfolio in printed or digital format. Group Performance Task: Municipal Fishing Operations Planning Project • Objective: Apply knowledge of fish capture, fisheries regulations, safety procedures, and weather-based navigation in planning a safe and sustainable municipal fishing operation. • Instructions: Working in groups of 4–6 members, develop and present a municipal fishing operations plan. The plan should identify the fishing method and target species, describe the tools and equipment to be used, explain applicable fisheries laws and environmental regulations, present safety measures and emergency procedures, and analyze a provided weather report to plan a safe fishing route. Present your plan through a poster, infographic, map, or multimedia presentation and explain how the operation promotes safety, legal compliance, and environmental sustainability.
Performance Standard	The learners perform maintenance of fishing gears and fish capture operations.
Content Standard	The learners demonstrate an understanding of types, functions, and maintenance of fishing gears and fish capture operations.

Week	Learning Competency	Suggested Activities
3	Perform maintenance of fishing gears	Maintenance of Fishing Gears Day 1 – Introduction to Fishing Gear Maintenance Learning Activities: Lecture-discussion: Importance of gear maintenance (longevity, efficiency, safety) - Identify common municipal fishing gear: nets, traps, lines, hooks Group Activity: Classify gears used locally and their functions Day 2 – Maintenance of Nets Learning Activities: Demonstration: Cleaning, drying, repairing holes, and proper storage Hands-on Activity: Practice mending sample nets or simulate repair Reflection: How proper net maintenance improves efficiency and catch Day 3 – Maintenance of Lines, Hooks, and Traps Learning Activities: Demonstration: Sharpening hooks, replacing lines, repairing traps Hands-on Activity: Inspect and repair sample gear Activity: Prepare a weekly maintenance checklist

Week	Learning Competency	Suggested Activities
		Day 4 – Safety in Gear Maintenance Learning Activities: • Discuss hazards: cuts, entanglement, slipping, heavy lifting • Demonstration: Proper handling of sharp or heavy gear • Activity: Role-play safety scenarios during maintenance
4	• Perform fish capture operations using different types of fishing gear	• Fish Capture Operations (Part 1) Day 5 – Introduction to Fish Capture Operations Learning Activities: • Lecture: Fish capture methods for municipal fishing • Discuss gear types: handline, gillnet, cast net, traps • Activity: Identify which gear is used for which species Day 6 – Capture Operations with Nets Learning Activities: • Demonstration: Cast net and gillnet deployment • Hands-on Simulation: Practice throwing and retrieving cast nets • Group Activity: Record observations and evaluate efficiency

Week	Learning Competency	Suggested Activities
		Day 7 – Capture Operations with Hooks and Lines Learning Activities: • Demonstration: Setting up handlines and hook-and-line rigs • Hands-on Simulation: Practice baiting, casting, and retrieving • Reflection: Compare efficiency of nets vs lines Day 8 – Capture Operations with Traps Learning Activities: • Lecture & Demonstration: Setting and retrieving fish traps • Hands-on Activity: Simulate trap placement and retrieval • Group Discussion: Advantages and limitations of trap fishing Day 9 – Combination of Gear Methods Learning Activities: • Discuss integrated fishing strategies (nets + traps + lines) • Case study: Local fishing scenarios and gear selection • Activity: Plan a fishing operation using multiple gears

Week	Learning Competency	Suggested Activities
		Day 10 – Maintenance During Operations Learning Activities: • Discuss maintaining gear while fishing (preventing damage, quick repairs) • Hands-on: Repair minor damages during simulated operations • Activity: Prepare a pre- and post-operation maintenance checklist Day 11 – Simulation of Fish Capture Operations Learning Activities: • Simulation Exercise: Apply different gears in a controlled environment (tank, pond, or model) • Practice deployment, retrieval, and catch handling • Record observations of efficiency and challenges Day 12 – Practical Assessment and Reflection Learning Activities: Performance Task: • Demonstrate maintenance of fishing gears • Execute fish capture operations using at least 2 gear types • Complete pre- and post-operation checklists • Summative Assessment: Practical + short written reflection on lessons learned.

Suggested Performance Tasks	Individual Performance Task: Fishing Gear Maintenance Portfolio Objective: Demonstrate knowledge and skills in maintaining fishing gears and applying safe maintenance practices. Instructions: Prepare an individual portfolio showcasing the proper maintenance of at least three fishing gears (e.g., nets, hooks, lines, or traps). Include photos, illustrations, or descriptions of inspection, cleaning, repair, storage procedures, and safety precautions. Conclude with a brief reflection on how proper maintenance improves fishing efficiency, safety, and gear longevity. Group Performance Task: Fish Capture Operations Simulation Objective: Apply appropriate fishing gear maintenance and fish capture techniques in a simulated municipal fishing operation. Instructions: In groups of 4–6 members, plan and conduct a fish capture operation simulation using at least two types of fishing gears. Demonstrate proper gear preparation, deployment, retrieval, basic maintenance during operations, and safe handling practices. Present your fishing strategy, explain the selected gear and target species, and discuss the effectiveness and challenges encountered during the simulation.
Performance Standard	The learner performs municipal vessel operation and navigation.
Content Standard	The learners demonstrate an understanding of the condition, seaworthiness, operation and navigation of a municipal vessel.

Week	Learning Competency	Suggested Activities
5	Evaluate the seaworthiness of municipal vessels for fishing operations	Evaluating Seaworthiness of Municipal Vessels Day 1 – Introduction to Vessel Seaworthiness Learning Activities: Lecture: Definition and importance of seaworthiness for municipal fishing vessels - Discuss key components affecting seaworthiness: hull, engine, steering, safety equipment Group activity: Identify common issues affecting vessel safety in your locality Day 2 – Hull and Structural Inspection Learning Activities: Demonstration: Inspect hull, deck, and structural components Hands-on: Identify defects or damages on sample vessels or models Reflection: How structural defects affect safety and vessel performance Day 3 – Engine, Steering, and Equipment Check Learning Activities: - Lecture and demonstration: Inspect engine, steering, and auxiliary equipment Activity: Complete a vessel inspection checklist

Week	Learning Competency	Suggested Activities
		• Discussion: Preventive maintenance and its impact on seaworthiness Day 4 – Safety Equipment and Documentation Learning Activities: • Identify safety gear: life jackets, fire extinguishers, signaling devices, first aid kit • Discuss vessel documentation: registration, licenses, logbooks • Activity: Simulate a complete seaworthiness evaluation of a municipal vessel
6	• Operate vessels of up to 3.0 gross tonnage	Operating Municipal Vessels (Up to 3.0 GT) Day 5 – Introduction to Vessel Operation Learning Activities: • Lecture: Basic vessel operation principles • Discuss types of engines, propulsion, and controls • Activity: Identify parts and functions of small municipal vessels Day 6 – Starting, Maneuvering, and Engine Operation Learning Activities: • Demonstration: Starting engine, throttle control, steering maneuvers • Hands-on: Practice basic maneuvers in a controlled environment (simulator or calm water) • Activity: Record performance observations

Week	Learning Competency	Suggested Activities
		Day 7 – Docking and Mooring Procedures Learning Activities: • Lecture and demonstration: Docking, mooring, and anchoring techniques • Hands-on practice: Simulate docking and anchoring procedures • Activity: Complete a docking/maneuvering checklist Day 8 – Vessel Operation Safety Learning Activities: • Discuss operational hazards: weather, mechanical failure, overloading • Activity: Role-play emergency situations and proper response • Quiz: Key operational safety principles
7	• Perform safe navigation for municipal vessels	Safe Navigation for Municipal Vessels Day 9 – Navigation Basics Learning Activities: • Lecture: Basic navigation concepts – compass, landmarks, tide, currents • Discuss charts and GPS (if available) • Activity: Interpret sample navigation charts Day 10 – Weather and Sea Conditions Learning Activities: • Lecture: Importance of weather information, tide, and sea condition monitoring

Week	Learning Competency	Suggested Activities
		• Activity: Read sample weather reports and plan safe vessel operations • Reflection: How weather affects navigation and fishing safety Day 11 – Navigation Simulation Learning Activities: • Simulation Exercise: Plot routes using charts, landmarks, and weather data • Apply safe speed, distance, and maneuvering principles • Activity: Team-based navigation scenario planning Day 12 – Practical Assessment and Reflection Learning Activities: • Performance Task: Conduct vessel inspection (seaworthiness checklist) • Demonstrate basic operation and maneuvering of vessel (simulated or real) • Plan a safe navigation route using weather and charts Summative Assessment: Practical demonstration and written reflection on vessel safety and navigation

Performance Standard	The learners perform handling, storing, transporting, and recording of aquatic products adhering to food safety standards.
Content Standard	The learners demonstrate an understanding of handling, storing, transporting, and recording of aquatic products.

Week	Learning Competency	Suggested Activities
8-9	Perform handling and storing of aquatic products adhering to food safety standards	Handling and Storing of Aquatic Products Day 1 – Introduction to Post-Harvest Handling Learning Activities: Lecture: Importance of proper handling and storage for quality and safety Discuss spoilage factors: temperature, time, contamination, handling Video: Demonstration of good handling practices Activity: Group discussion on local post-harvest practices Day 2 – Food Safety Standards Learning Activities: Lecture: HACCP principles, sanitation, personal hygiene Demonstration: Proper handling techniques (washing, grading, icing) Hands-on Activity: Practice storing fish using ice or refrigeration simulation

Week	Learning Competency	Suggested Activities
		• Reflection: Consequences of poor handling Day 3 – Storage Methods and Quality Control Learning Activities: • Discuss storage options: ice, cold storage, controlled atmosphere, drying • Activity: Sort sample products by freshness and quality • Group exercise: Prepare a checklist for safe storage of aquatic products Day 4 – Record Keeping in Post-Harvest Operations Learning Activities: • Lecture: Importance of recording handling and storage activities • Show sample log sheets: weight, temperature, storage duration • Hands-on: Complete sample post-harvest record sheets Quiz: Key concepts in product handling and recording
	• Perform proper transportation methods for aquatic products	• Transportation of Aquatic Products Day 5 – Introduction to Proper Transportation Methods Learning Activities: • Lecture: Methods of transporting fish and seafood to maintain quality

Week	Learning Competency	Suggested Activities
		- Discuss packaging, ice, Perform proper transportation methods for aquatic products - insulated containers, and vehicle hygiene Group discussion: Common transportation challenges in the locality Day 6 – Demonstration of Transportation Practices Learning Activities: - Demonstrate proper packing of products for transport Simulation: Loading and unloading procedures while maintaining product integrity Activity: Prepare a transportation checklist Day 7 – Monitoring During Transportation Learning Activities: - Discuss factors affecting quality during transport: time, temperature, handling Hands-on: Measure temperature and document product condition during simulation Reflection: How monitoring ensures product quality
10	Record activities in fish capture operations	Transportation Record Keeping Learning Activities: - Practice completing logs for quantity, destination, vehicle, time, and temperature

Week	Learning Competency	Suggested Activities
		• Group Activity: Analyze sample transport records for errors or improvements Short quiz: Principles of safe transport

Suggested Performance Tasks	Individual Performance Task: Post-Harvest Handling and Record-Keeping Portfolio • Objective: Demonstrate knowledge and skills in the proper handling, storage, transportation, and documentation of aquatic products while following food safety standards. • Instructions: Prepare an individual portfolio that shows the correct procedures for handling, storing, and transporting aquatic products. Include a storage checklist, transportation checklist, sample handling and transport records, and a short reflection on the importance of food safety, quality control, and accurate record keeping in post-harvest operations. Submit the portfolio in printed or digital format. Group Performance Task: Aquatic Products Marketing and Distribution Simulation • Objective: Apply proper post-harvest handling, transportation, record keeping, and marketing practices to maintain product quality and promote successful sales of aquatic products. • Instructions: In groups of 4–6 members, conduct a simulation of the post-harvest process for aquatic products. Demonstrate proper handling and storage practices, prepare products for transportation, complete the necessary records, and develop a simple marketing plan for selling the products in a chosen market. Present your procedures, records, and marketing strategy, and explain how they help ensure product quality, food safety, and customer satisfaction.
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