

K TO 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD TRACK AND SENIOR HIGH SCHOOL – TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
HOME ECONOMICS – FISH-PRODUCTS PACKAGING NC II
(320 hours)

These are the specializations and their pre-requisites. These lists should be used as reference for curriculum maps.

AGRI-FISHERY ARTS

	Specialization	Number of Hours	Pre-requisite
1.	Agricultural Crops Production (NC I)	320 hours	
2.	Agricultural Crops Production (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
3.	Agricultural Crops Production (NC III)	640 hours	Agricultural Crops Production (NC II)
4.	Animal Health Care Management (NC III)	320 hours	Animal Production (Poultry-Chicken) (NC II) or Animal Production (Ruminants) (NC II) or Animal Production (Swine) (NC II)
5.	Animal Production (Poultry-Chicken) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
6.	Animal Production (Large Ruminants) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
7.	Animal Production (Swine) (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
8.	Aquaculture (NC II)	640 hours	
9.	Artificial Insemination (Large Ruminants) (NC II)	160 hours	Animal Production (Large Ruminants) (NC II)
10.	Artificial Insemination (Swine) (NC II)	160 hours	Animal Production (Swine) (NC II)
11.	Fish Capture (NC II)	640 hours	
12.	Fishing Gear Repair and Maintenance (NC III)	320 hours	
13.	Fish-Products Packaging (NC II)	320 hours	
14.	Fish Wharf Operation (NC I)	160 hours	
15.	Food Processing (NC II)	640 hours	
16.	Horticulture (NC III)	640 hours	Agricultural Crops Production (NC II)
17.	Landscape Installation and Maintenance (NC II)	320 hours	
18.	Organic Agriculture (NC II)	320 hours	
19.	Pest Management (NC II)	320 hours	
20.	Rice Machinery Operations (NC II)	320 hours	
21.	Rubber Processing (NC II)	320 hours	
22.	Rubber Production (NC II)	320 hours	
23.	Slaughtering Operations (Hog/Swine/Pig) (NC II)	160 hours	

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HOME ECONOMICS

	Specialization	Number of Hours	Pre-requisite
1.	Attractions and Theme Parks Operations with Ecotourism (NC II)	160 hours	
2.	Barbering (NC II)	320 hours	
3.	Bartending (NC II)	320 hours	
4.	Beauty/Nail Care (NC II)	160 hours	
5.	Bread and Pastry Production (NC II)	160 hours	
6.	Caregiving (NC II)	640 hours	
7.	Commercial Cooking (NC III)	320 hours	Cookery (NC II)
8.	Cookery (NC II)	320 hours	
9.	Dressmaking (NC II)	320 hours	
10.	Events Management Services (NC III)	320 hours	
11.	Fashion Design (Apparel) (NC III)	640 hours	Dressmaking (NC II) or Tailoring (NC II)
12.	Food and Beverage Services (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	160 hours	
13.	Front Office Services (NC II)	160 hours	
14.	Hairdressing (NC II)	320 hours	
15.	Hairdressing (NC III)	640 hours	Hairdressing (NC II)
16.	Handicraft (Basketry, Macrame) (Non-NC)	160 hours	
17.	Handicraft (Fashion Accessories, Paper Craft) (Non-NC)	160 hours	
18.	Handicraft (Needlecraft) (Non-NC)	160 hours	
19.	Handicraft (Woodcraft, Leathercraft) (Non-NC)	160 hours	
20.	Housekeeping (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	160 hours	
21.	Local Guiding Services (NC II)	160 hours	
22.	Tailoring (NC II)	320 hours	
23.	Tourism Promotion Services (NC II)	160 hours	
24.	Travel Services (NC II)	160 hours	
25.	Wellness Massage (NC II)	160 hours	

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INDUSTRIAL ARTS

	Specialization	Number of Hours	Pre-requisite
1.	Automotive Servicing (NC I) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
2.	Automotive Servicing (NC II)	640 hours	Automotive Servicing (NC I)
3.	Carpentry (NC II)	640 hours	
4.	Carpentry (NC III)	320 hours	Carpentry (NC II)
5.	Construction Painting (NC II)	160 hours	
6.	Domestic Refrigeration and Air-conditioning (DOMRAC) Servicing (NC II)	640 hours	
7.	Driving (NC II)	160 hours	
8.	Electrical Installation and Maintenance (NC II)	640 hours	
9.	Electric Power Distribution Line Construction (NC II)	320 hours	Electrical Installation and Maintenance (NC II)
10.	Electronic Products Assembly and Servicing (NC II) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	640 hours	
11.	Furniture Making (Finishing) (NC II)	640 hours	
12.	Instrumentation and Control Servicing (NC II)	320 hours	Electronic Products Assembly and Servicing (EPAS) (NC II)
13.	Gas Metal Arc Welding (GMAW) (NC II)	320 hours	Shielded Metal Arc Welding (SMAW) (NC II)
14.	Gas Tungsten Arc Welding (GTAW) (NC II)	320 hours	Shielded Metal Arc Welding (GMAW) (NC II)
15.	Machining (NC I)	640 hours	
16.	Machining (NC II)	640 hours	Machining (NC I)
17.	Masonry (NC II)	320 hours	
18.	Mechatronics Servicing (NC II)	320 hours	Electronic Products Assembly and Servicing (EPAS) (NC II)
19.	Motorcycle/Small Engine Servicing (NC II)	320 hours	
20.	Plumbing (NC I)	320 hours	
21.	Plumbing (NC II)	320 hours	Plumbing (NC I)
22.	Refrigeration and Air-Conditioning (Packaged Air-Conditioning Unit [PACU]/Commercial Refrigeration Equipment [CRE]) Servicing (NC III)	640 hours	Domestic Refrigeration and Air-conditioning (DOMRAC) Servicing (NC II)
23.	Shielded Metal Arc Welding (NC I)	320 hours	
24.	Shielded Metal Arc Welding (NC II)	320 hours	Shielded Metal Arc Welding (NC I)
25.	Tile Setting (NC II)	320 hours	
26.	Transmission Line Installation and Maintenance (NC II)	640 hours	Electrical Installation and Maintenance (NC II)

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INFORMATION, COMMUNICATIONS AND TECHNOLOGY (ICT)

	Specialization	Number of Hours	Pre-requisite
1.	Animation (NC II)	320 hours	
2.	Broadband Installation (Fixed Wireless Systems) (NC II)	160 hours	Computer Systems Servicing (NC II)
3.	Computer Programming (.Net Technology) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
4.	Computer Programming (Java) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
5.	Computer Programming (Oracle Database) (NC III) <i>updated based on TESDA Training Regulations published December 28, 2013</i>	320 hours	
6.	Computer Systems Servicing (NC II) <i>updated based on TESDA Training Regulations published December 28, 2007</i>	640 hours	
7.	Contact Center Services (NC II)	320 hours	
8.	Illustration (NC II)	320 hours	
9.	Medical Transcription (NC II)	320 hours	
10.	Technical Drafting (NC II)	320 hours	
11.	Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)	320 hours	Computer Systems Servicing (NC II)
12.	Telecom OSP Installation (Fiber Optic Cable) (NC II)	160 hours	Computer Systems Servicing (NC II)

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Course Description:

This curriculum guide on Fish-Products Packaging leads to National Certificate Level II (NC II). This guide is designed for students to develop and enhance their knowledge, skills, and attitudes in Fish-Products Packaging in accordance with industry standards. It covers core and specialized competencies that a learner must achieve to pack fish-products by vacuum packing, poly bagging, bottling and canning. It also covers lessons on Personal Entrepreneurial Competencies (PECS) and Environmental and Market that maximize their skills into a marketable venture.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Relevance of the course 2. Key concepts 3. Core competencies 4. Career Opportunities	The learner demonstrates an understanding of the core competencies, key concepts, and underlying principles in packaging fish-products.	The learner can independently provide quality and marketable services for food packaging industry as prescribed by TESDA Training Regulation.	1. Discuss the relevance of the course. 2. Explain the key concept of common competencies. 3. Explain the core competencies in Fish-Product Packaging. 4. Explore job opportunities in packaging fish-products.	
PERSONAL ENTREPRENEURIAL COMPETENCIES AND SKILLS (PECS)				
1. Assessment of Personal Competencies and Skills (PECS) of local entrepreneur practicing packaging fish-products 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PECS in relation a practitioner’s strategies or style 3. Align, strengthen and one’s PECs based on results	The learner demonstrates an understanding of one’s PECS for Fish-Products Packaging.	The learner recognizes his/her PECS and prepares an activity plan that aligns with that of a practitioner/entrepreneur’s in packaging of fish-products.	LO 1. Recognize PECS needed in fish-products packaging procedures. 1.1 Assess one’s PECS: characteristics, attitudes, lifestyle, skills and traits. 1.2 Compare one’s PECS with that practitioner/entrepreneur. 1.3 Align ones PECS with that of a practitioner.	TLE_PECS9-12-00-1
ENVIRONMENT AND MARKET (EM)				
1. Market (locality/town) 2. Key concepts of Market 3. Players in the market (competitors) 4. Products and services available in the market	The learner demonstrates understanding of “environment and market” in the fish-products packaging field in one’s locality/town.	The learner independently creates a business vicinity map reflective of the potential fish-product packaging market within the locality/town.	LO 1. Recognize and understand the market in fish-products packaging 1.1 Identify the players/competitors within the town. 1.2 Identify the different product/services available in the in the market.	TLE_EM9-12-00-1

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CORE COMPETENCIES				
LESSON 1: PACKAGING PROCESSED FISH BY VACUUM OR ORDINARY POLY PACKING (PFV)				
<ul style="list-style-type: none"> • Inspection of defective packaging materials <ul style="list-style-type: none"> - Types of packaging materials - Visual defects of packaging materials • Report on defective packaging materials • Standard quality vacuum or poly packing • Inspection of packaging equipment and tools <ul style="list-style-type: none"> - Different packaging equipment and tools - Inspection procedure - Adjustment packaging equipment and tools - Minor troubleshooting and basic repair of packaging equipment - Segregating defective tools • Sanitation techniques for packaging materials and equipment • Breakdown report of packaging equipment • Checking of labels for packaging materials <ul style="list-style-type: none"> - Label information - BFAD rules/requirements • Documentation of packaging materials, tools, and equipment • Workplace safety measures <ul style="list-style-type: none"> - Occupational Health and Safety Standards (OSHS) 	<p>The learner demonstrates an understanding of the core concepts and principles in packaging processed fish by vacuum or ordinary poly packing.</p>	<p>The learner independently demonstrates and performs packaging of processed fish by vacuum or ordinary poly packing based on industry standards.</p>	<p>LO 1. Inspect packaging materials, tools, and equipment.</p> <p>1.1 Inspect packaging materials for visual defects.</p> <ul style="list-style-type: none"> • Report defective materials to supervisor for appropriate action. • Check packaging equipment and tools for vacuum or ordinary poly packing for the required settings in accordance with established standards. • Sanitize packaging materials and equipment. <p>1.2 Inspect Packaging Equipment and Tools</p> <p>1.3 Report breakdown in packaging equipment to supervisor for appropriate action.</p> <p>1.4 Check labels of packaging materials for required information to ensure conformity with company's regulations and Bureau of Food and Drugs (BFAD) requirements.</p> <p>1.5 Complete documentation for packaging materials, tools and equipment used according to workplace requirements.</p> <p>1.6 Follow worker's safety practices strictly according to workplace requirements.</p>	<p>TLE_HEFPP9-12PFV-Ia-e-1</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> - Hazard Analysis and Critical Control Point (HACCP) / Food Safety Act • Good Manufacturing Practices (GMP) 				
<ul style="list-style-type: none"> • Standards for inspection of processed fish products <ul style="list-style-type: none"> - Normal characteristics of fish products • Disposal of rejected / downgraded fish products <ul style="list-style-type: none"> - Disposal procedures of rejected / downgraded fish products - Environmental rules and regulation in waste disposal • Packaging procedures of processed fish products <ul style="list-style-type: none"> - Weighing of processed fish products - Using weighing scales - Bagging processed fish products - Sealing packaging materials - Operating packaging equipment - Placing packaged fish products in inner carton • Inner carton label <ul style="list-style-type: none"> - Labeling information • Principles of food quality and safety • Principles of HACCP, GMP, SSOP 			<p>LO 2. Perform inner packaging of processed fish products.</p> <p>2.1 Inspect the processed fish products in accordance with manufacturer’s specifications and standards.</p> <p>2.2 Dispose downgraded/rejected processed fish products according to company’s policy.</p> <p>2.3 Package procedures of processed fish products</p> <ul style="list-style-type: none"> • Weigh processed fish products in accordance with approved specifications. • Bag processed fish products according to prescribed packaging materials. • Seal packaging material in accordance to the required industry standard. • Place packaged fish products after passing through metal detector in inner carton in accordance to manufacturer’s specification. • Label inner carton in accordance to manufacturer’s specification. <p>2.4 Follow OSHS</p>	<p>TLE_HEFPP9-12PFV-If-j-IIa-c-2</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Placing of processed fish products in master carton • Fish products package strapping • Palletization and warehousing • Quality control of packaged fish products <ul style="list-style-type: none"> - Condition of packaged fish products - Conducting random sampling • Specification of labels for packaged fish products • Storing of packaged fish products <ul style="list-style-type: none"> - Storage temperature • OSHS • GMP • HACCP • Food safety principles • 5S' and 3R's 			<p>LO3. Perform outer packaging procedures.</p> <ul style="list-style-type: none"> • Place the packaged processed fish products in the master carton. • Strap packaged fish products in cartons for storing according to specifications. • Transfer the strapped products to pallet for storing according to specifications. • Conduct random sampling prior to storage in conformity with the manufacturer's standards. • Label packaged fish products according to required specifications. • Store labeled packaged fish products according to required temperature. • Follow strictly the OSHS. 	<p>TLE_HEFPP9-12PFV-IIc-j-3</p>
LESSON 2 : PACKAGING PROCESSED FISH BY BOTTLING (PFB)				
<ul style="list-style-type: none"> • Inspections for defective packaging materials <ul style="list-style-type: none"> - Types of packaging materials for bottling - Parts of a glass containers - Defects of glass containers - Reporting defective packaging materials • Sanitation standards of packaging materials • Standards of packaging equipment for bottling <ul style="list-style-type: none"> - Different packaging equipment for bottling 	<p>The learner demonstrates an understanding of the core concepts, theories and principles in packaging processed fish by bottling.</p>	<p>The learner independently performs packaging processed fish by bottling based on industry standards.</p>	<p>LO 1. Inspect packaging materials, tools and equipment.</p> <ol style="list-style-type: none"> 1.1 Inspect packaging materials for visual defects. <ul style="list-style-type: none"> • Report defects to supervisor for appropriate action. 1.2 Sanitize packaging materials, tools and equipment according to standard operating procedures. 1.3 Check packaging equipment for bottling for the required settings in accordance with standard operating procedures. 1.4 Report breakdown of packaging equipment for appropriate action. 	<p>TLE_HEFPP9-12PFB-IIa-j-4</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> - Inspection -equipment - Adjustment of equipment - Basic repair and maintenance of packaging equipment • Action breakdowns report of packaging equipment to supervisor • Preparation of documentation for packaging tools, materials, and equipment <ul style="list-style-type: none"> - Inventory procedures • OSHS • GMP • HACCP • Food safety principles 			<ul style="list-style-type: none"> • Prepare documentation for packaging materials, tools and equipment according to workplace requirements. <p>1.5 Follow strictly the OSHS.</p>	
<ul style="list-style-type: none"> • Inspection of processed fish products <ul style="list-style-type: none"> - Normal characteristics of fish products - Disposal of rejected / downgraded processed fish products - Environmental rules and regulations of waste disposals • Packaging of processed fish products in bottle <ul style="list-style-type: none"> - Fish packaging in glass containers - Filling techniques of bottles with fish and ingredients - other ingredients Adding in bottle - Checking sealing caps (characteristics of normal seal caps) 			<p>LO 2. Perform bottling of processed fish.</p> <p>2.1 Inspect the processed fish products after preparatory operations for quality in accordance with manufacturer’s specifications.</p> <p>2.2 Dispose downgraded/rejected processed fish products according to company’s requirements.</p> <p>2.3 Package processed fish products in bottles <ul style="list-style-type: none"> • Fill bottles with processed fish and other ingredients according to specification. • Check sealing compound of caps prior to sealing in accordance to standard procedures. • Seal bottles immediately after exhausting to meet the required temperature as per industry standard. </p> <p>2.4 Tamper proof seal bottled fish products after retorting and cooling according to</p>	<p>TLE_HEFPP9-12PFB-IVa-j-5</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> - Sealing techniques of bottles - Exhausting techniques - Required temperature of bottled products - Retorting and cooling techniques - Tamper-proof sealing - Labeling with appropriate label-information 			<p>approved specifications.</p> <ul style="list-style-type: none"> • Label appropriately the bottled fish products with required information in accordance to manufacturer’s specifications. <p>2.5 Follow strictly the OSHS.</p>	
<ul style="list-style-type: none"> • Packaging of processed fish products in master carton • Strapping package fish products • Palletization and warehousing • Quality control of packaged fish products <ul style="list-style-type: none"> - Checking condition of packaged fish products - Conducting random sampling • Packaged fish products Label • Storing packaged fish products <ul style="list-style-type: none"> - Storage temperature • OSHS • GMP • HACCP • Food safety principles 			<p>LO 3. Perform post packaging procedures.</p> <p>3.1 Package processed fish products in master carton</p> <ul style="list-style-type: none"> • Place the bottled fish products in the master carton. • Seal in master carton according to specifications. • Strap packaged fish products in cartons. • Transfer strapped packaged fish products to pallet for storing according to specifications. <p>3.2 Quality control of packaged fish products</p> <ul style="list-style-type: none"> • Check bottled fish products of certain conditions in accordance to established standards. • Conduct random sampling prior to storage according to established standards. • Store packaged fish products according to required temperature. <p>3.3 Follow strictly the worker’s safety practices according to workplace requirements.</p>	TLE_HEFPP9-12PFB-Ia-j-6
LESSON 3 : PACKAGING PROCESSED FISH BY CANNING (PFC)				
<ul style="list-style-type: none"> • Inspection of defective packaging materials <ul style="list-style-type: none"> - Types of packaging materials 	The learner demonstrates an understanding of the core concepts, theories	The learner independently performs packaging processed fish by canning based on the	<p>LO1. Inspect packaging materials, tools and equipment.</p> <p>1.1 Inspect packaging materials for visual</p>	TLE_HEFPP9-12PFC-IIa-j-7

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> for canning - Parts of a can - Defects of can - Reporting defective packaging materials • Sanitation of packaging materials • Checking of packaging equipment for canning <ul style="list-style-type: none"> - Different packaging equipment for canning - Inspecting equipment - Setting up and adjustment of equipment - Basic repair and maintenance of packaging equipment • Breakdown reports of packaging equipment to supervisor • Preparation of documentation for packaging tools, materials, and equipment <ul style="list-style-type: none"> - Inventory procedures • OSHS • GMP • HACCP • Food safety principles 	<p>and principles in packaging processed fish by canning.</p>	<p>industry standards.</p>	<ul style="list-style-type: none"> defects. <ul style="list-style-type: none"> • Report defective materials to supervisor for appropriate action. 1.2 Sanitize packaging materials, tools and equipment according to standard operating procedures. 1.3 Check packaging equipment for canning for the required settings in accordance with standard operating procedures. 1.4 Report breakdown in packaging equipment to supervisor for appropriate action. <ul style="list-style-type: none"> • Prepare documentation for packaging materials, tools and equipment according to workplace requirements. 1.5 Follow strictly the worker’s safety practices according to workplace requirements. 	
<ul style="list-style-type: none"> • Inspection of processed fish products <ul style="list-style-type: none"> - Normal characteristics of processed fish products - Disposal of rejected /downgraded fish products - Environmental rules and regulations • Canning of fish products <ul style="list-style-type: none"> - Checking lids with sealing 			<p>LO 2. Perform canning of processed fish.</p> <ul style="list-style-type: none"> 2.1 Inspect the processed fish products after preparatory operations for quality in accordance with manufacturer’s specifications. <ul style="list-style-type: none"> • Dispose downgraded/rejected processed fish products according to company’s standard. 2.2 Place the canned processed fish according to specification. 	<p>TLE_HEFPP9-12PFC-IIIa-j-8</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> compound - Operational canning equipment - Canning procedures of fish products - Exhausting and sealing of cans - Required temperature of canned products - Sealing, retorting, and cooling procedures • Visual defects for canned products <ul style="list-style-type: none"> - Different defects of canned products - Appearance of defective canned products • Labeling canned fish products <ul style="list-style-type: none"> - Labeling information / product information <ul style="list-style-type: none"> • Principles of food quality and safety • Principles of HACCP, GMP, SSOP 			<ul style="list-style-type: none"> • Check lids with sealing compound prior to sealing in accordance to standard procedures. • Seal cans immediately after exhausting to meet the required temperature based on the standard practice. <p>2.3 Check cans for visual defects after sealing, retorting and cooling according to standard procedures.</p> <p>2.4 Label canned fish products with information in accordance to manufacturer’s specifications.</p> <p>2.5 Follow strictly the OSHS.</p>	
<ul style="list-style-type: none"> • Placing processed fish products in master carton <ul style="list-style-type: none"> - Sealing master carton specifications • Package fish products strapping • Palletization and warehousing • Quality control of packaged fish products <ul style="list-style-type: none"> - Check condition of packaged fish products - Conduct random sampling • Labeling of packaged fish products 			<p>LO 3. Perform post packaging procedures.</p> <p>3.1 Place the canned fish products in the master carton. <ul style="list-style-type: none"> • Seal master carton according to specifications. • Strapped packaged fish products in master cartons. • Transfer strapped cartons to pallet for storing according to specifications. </p> <p>3.2 Check canned fish products of certain conditions in accordance with standard procedures.</p>	<p>TLE_HEFPP9-12PFC-IVa-j-9</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Storage of packaged fish products <ul style="list-style-type: none"> - Storage temperature • OSHS • GMP • HACCP • Food safety principles 			3.3 Conduct random sampling prior to storage according to specifications. 3.4 Store packaged fish products according to required temperature. 3.5 Follow strictly the OSHS.	

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RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	EQUIPMENT	MATERIALS		
<ul style="list-style-type: none"> • Weighing scales • Dial/Digital thermometers • Utility trays • Food tongs • Knives • Measuring cups • Chopping boards • Measuring spoons • Clock/Timer • Mixing bowl 	<ul style="list-style-type: none"> • Refrigerator • Freezer • Stoves • Strapping machine • Heat sealer • Shrink wrapping machine • Tape/Adhesive dispenser • Cap sealer • Pressure canner • Pressure cooker • Plastic cap sealer • Vacuum pack machine • Labeling machines 	<ul style="list-style-type: none"> A. Food supplies • Processed fish products (milkfish, tilapia, shrimp) • Oil • Tomatoes • Salt • Bay leaf • Pickles • Peppercorn • Cloves • MSG B. Nonfood Supplies • Rubberized caps • PE plastic packaging materials • 12 oz., round bottles with screw caps • Plastic cap seals • Tin cans with lids • Disinfectant • Detergent • Labels • Corrugated cartons • Inner cartons • Carton strap Training Materials • Competency Based Learning Materials (CBLM) • Books/Reference • Manual • Multi-media • Video slides 	<ul style="list-style-type: none"> • Self-paced/modular • Group Discussion • Demonstration • Practical exercises • Industry visit/ Educational tour • Lecture/discussion • Film Viewing 	<ul style="list-style-type: none"> • Demonstration with oral questioning • Observation • Interview • Written test • Portfolio + interview

K TO 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD TRACK AND SENIOR HIGH SCHOOL – TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
HOME ECONOMICS – FISH-PRODUCTS PACKAGING NC II

(320 hours)

GLOSSARY

- | | | |
|--|---|---|
| 1. Add | - | To place more ingredient/s or material to something |
| 2. Bottling/Canning | - | A preservation of foods in hermetically sealed containers such as tin cans and glass jars by sterilization |
| 3. Block | - | Shape, mold or form into a block |
| 4. Cans | - | Metal container made of steel base with a thin coating of tin on each side; give hermetic seal and resistant to heat |
| 5. Defect | - | Condition found in a product which fails to meet essential quality, composition and/or labeling provisions of the appropriate product standards. |
| 6. Dried | - | State where the natural moisture is removed. |
| 7. Eviscerate | - | To remove the internal organs |
| 8. Exhausting | - | Removal of air and gases from the raw material and the container before sealing; It refers to the heating of canned foods to a center can temperature of 180°C to 205°F before sealing. |
| 9. Fresh | - | Recently made, produced, or harvested; not stale or spoiled. |
| 10. Freezing | - | Method of food preservation by storing food at about 0 °F. |
| 11. Frozen | - | Preserved by freezing |
| 12. Fillet | - | Slice of fish of irregular size and shape removed from the carcass by cuts made parallel to the back bone. |
| 13. Fish Processing | - | Application of heat in varying degree to the fish enclosed in a container for a sufficient time to sterilize the product |
| 14. Food quality standards | - | Specific consumer and trade requirements that affects market acceptability and price |
| 15. Food safety standards | - | Determine safety of food for human consumption |
| 16. Glass | - | A rigid, inert and transparent but fragile and heavy material |
| 17. GMP | - | Good manufacturing practices |
| 18. Hazard Analysis and Critical Control Points (HACCP) | - | Systematic preventative approach to food safety that addresses physical, chemical and biological hazards as a means of prevention rather than finished product inspection. |
| 19. Hermetic Sealing | - | Closure of food in tin cans or glass jars tightly to prevent the entrance of microorganisms and contamination of products. |
| 20. Individually Quick Frozen | - | Frozen separately as single units. |
| 21. International Organization for Standardization (ISO) | - | An international standard-setting body composed of representatives from national standards bodies. Founded on 1947-02-23, the organization produces world-wide industrial and commercial standards, the so-called ISO standards. |
| 22. OSHA | - | Occupational Health and Safety Standards |
| 23. Packaging | - | The enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can tube, bottle or other container to perform the following functions: containment, protection and/or preservation, communication and utility or performance |
| 24. Polyethylene | - | A lightweight thermoplastic, used especially in packaging and insulation |
| 25. Raw Materials | - | The main food material to be processed including minor food ingredients |
| 26. Sanitation | - | Process of treating food contact and non-food contact surface with physical agents and chemicals to kill the residual microorganisms present after cleaning. |
| 27. Smoked | - | Cured by the process of flavoring, cooking, or preserving food by exposing it to the smoke from burning or smoldering plant materials, most often wood. |

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- 28. Sanitation Standard Operating Procedures - The common name given to the sanitation procedures in food production plants which are required by the Food Safety and Inspection Service of the USDA. It is considered one of the prerequisite programs of HACCP.
- 29. Thermal Processing - The method of processing food in hermetically sealed container by applying heat with the right temperature and time, enough to kill microorganisms responsible in the spoilage of food which involve bottling and canning
- 30. Vacuum - A state of pressure reduction below atmosphere.
- 31. Vacuum packed product - Product that is sealed in a container under the vacuum specified in the scheduled process, the maintenance of which vacuum is critical to the adequacy of scheduled process.

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CODE BOOK LEGEND

Sample: **TLE_HEFPP9-12PFV-Ia-e-1**

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_ Home Economics Fish-Products Packaging NC II	TLE_HE FPP 9-12
	Grade Level	9/10/11/12	
Uppercase Letter/s	Domain/ Content/ Component/Topic	Packaging Processed Fish by Vacuum or Ordinary Poly Packing	PFV
-			
Roman Numeral <i>*Zero if no specific Quarter</i>	Quarter	First Quarter	I
Lower case letter/s <i>*Put an en-dash (-) in between letters to indicate more than a specific week</i>	Week	Week one to five	a-e
-			
Arabic Number	Competency	Inspect packaging materials, tools, and equipment.	1

DOMAIN / COMPONENT	CODE
Packaging Processed Fish by Vacuum or Ordinary Poly Packing	PFV
Package Processed Fish by Bottling	PFB
Packaging Processed Fish by Canning	PFC

Technology-Livelihood Education and Technical-Vocational Track specializations may be taken between Grades 9 to 12.


Schools may offer specializations from the four strands as long as the minimum number of hours for each specialization is met.

Please refer to the sample Curriculum Map on the next page for the number of semesters per Agri-Fishery Arts specialization and those that have pre-requisites. Curriculum Maps may be modified according to specializations offered by a school.

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SAMPLE AGRICULTURE AND FISHERY ARTS CURRICULUM MAP (updated as of May 2016)**

GRADE 7/8 (EXPLORATORY)				GRADES 9-12							
EXPLORATORY				Agricultural Crops Production (NC I)		4 sems					
				Agricultural Crops Production (NC II)⁺ <small>updated based on TESDA Training Regulations published on December 28, 2013</small>				8 sems			
				*Agricultural Crops Production (NC III)				8 sems			
				Landscape Installation and Maintenance (NC II)		4 sems		Organic Agriculture (NC II)		4 sems	
				Pest Management (NC II)		4 sems		Rice Machinery Operation (NC II)		4 sems	
				Animal Production (Swine) (NC II)⁺ <small>updated based on TESDA Training Regulations published on December 28, 2013</small>		4 sems		*Artificial Insemination: Swine (NC II)		2 sems	
				Animal Production (Large Ruminants) (NC II)⁺ <small>updated based on TESDA Training Regulations published on December 28, 2013</small>		4 sems		*Artificial Insemination: Large Ruminants (NC II)		2 sems	
				Animal Production (Poultry-Chicken) (NC II)⁺ <small>updated based on TESDA Training Regulations published on December 28, 2013</small>		4 sems		*Animal Health Care Management NC III		4 sems	
				Rubber Production (NC II)		4 sems		Rubber Processing (NC II)		4 sems	
				*Horticulture (NC III)				8 sems			
				Food Processing (NC II)				8 sems			
				Fish Capture (NC II)				8 sems			
				Aquaculture (NC II)				8 sems			
				Fish-Products Packaging (NC II)		4 sems		Fishing Gear Repair and Maintenance (NC III)		4 sems	

* Please note that these subjects have pre-requisites mentioned in the CG.
 + CG updated based on new Training Regulations of TESDA.
 Other specializations with no prerequisites may be taken up during these semesters.

****This is just a sample. Schools make their own curriculum maps considering the specializations to be offered. Subjects may be taken up at any point during Grades 9-12.**

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Reference:

Technical Education and Skills Development Authority-Qualification Standards Office. *Training Regulations for Fish Products Packaging NC II*. Taguig City, Philippines: TESDA, 2011.