



Republic of the Philippines
DEPARTMENT OF EDUCATION



K to 12 BASIC EDUCATION CURRICULUM

TECHNOLOGY AND LIVELIHOOD EDUCATION

CURRICULUM GUIDE

Exploratory Course on

FOOD (FISH) PROCESSING

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION
AGRICULTURE/FISHERY – FOOD (FISH) PROCESSING
(Exploratory)

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Curriculum Guide for the Exploratory Course on Food (Fish) Processing

For you to get a complete picture of the complete TLE exploratory course on Food (Fish) Processing, you are hereby provided with the Curriculum Guide on Food (Fish) Processing.

Content Standard	Performance Standard	Learning Competencies	Project / Activities	Assessment	Duration
Unit of Competency : USE FOOD PROCESSING TOOLS, EQUIPMENT AND UTENSILS					
<ul style="list-style-type: none"> Food(fish) processing tools and equipment/ instruments Food (fish)processing methods Faults and defects of tools, equipment and instruments in food (fish) processing equipment Reporting procedures 	<ol style="list-style-type: none"> Appropriate tools, equipment and utensils are selected according to food (fish) processing methods. Faults and defects of tools, equipment and utensils are explained. Defective tools, equipment and utensils are reported in accordance with farm procedures. 	LO1. Select tools, equipment and utensils	<ol style="list-style-type: none"> Demonstrate on calibrating refractometer Demonstrate using salinometer Demonstrate using blender Demonstrate stowing equipment and instruments. 	<ul style="list-style-type: none"> Written test Performance test 	3 hours
<ol style="list-style-type: none"> Procedures in using the standard measuring devices and instruments Calibrating measuring devices and instruments <ul style="list-style-type: none"> Sanitizing procedures (include topics on sanitizing agents) Using the appropriate 	<ol style="list-style-type: none"> Printed procedures/ brochures/ catalogues are consulted and reviewed according to specified food processing methods. Standard procedures in using tools, equipment and instruments are recalled and strictly followed according to manufacturer’s specifications Devices and instruments for 	LO2. Use tools, equipment and instruments following standard procedures		<ul style="list-style-type: none"> 	3 hours

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<p>food(fish) processing tools ,equipment and instruments</p>	<p>measuring are properly checked, sanitized and calibrated prior to use.</p> <p>4. Tools, equipment and instruments are safely used according to job requirements and manufacturers' specifications.</p>				
<ul style="list-style-type: none"> • Procedures in cleaning, sanitizing equipment and instruments prior to storage • Switching off and unplugging food (fish) processing equipment • Cleaning and sanitizing procedures • Storing food processing tools, equipment and instruments • Procedures in minor preventive machine maintenance • Various condition of machine <ul style="list-style-type: none"> ➤ serviceable ➤ repairable ➤ defective 	<ol style="list-style-type: none"> 1. Switching off/unplugging procedures of food (fish) processing equipment is described in accordance with manufacturer's specifications. 2. Food processing tools are cleaned, sanitized and stored as required according to manufacturer's specifications and workplace policies and regulations. 3. Procedures in cleaning, sanitizing and storing food processing equipment and instruments are described according to manufacturer's specifications and workplace policies and regulations. 4. Minor preventive maintenance procedures on equipment and instruments are discussed in line with organization's maintenance system. 	<p>LO3.Perform post-operation activities.</p>	<ol style="list-style-type: none"> 1. Perform preventive maintenance of can sealer and pressure cooker. 	<ul style="list-style-type: none"> • 	<p>3 hours</p>

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<ul style="list-style-type: none"> Disposal of defective tools, equipment and instruments relating to environmental laws (DENR, LGU, etc.) and waste management procedures 	5. Defective tools, equipment and instruments are disposed according to environmental procedures.				
Unit of Competency: PERFORM MATHEMATICAL COMPUTATIONS					
<ul style="list-style-type: none"> Weights and measurements <ul style="list-style-type: none"> ➤ Gravimetric ➤ Volumetric ➤ Lengths, diameter, widths ➤ Seam measurements Hotness/coldness temperature Concentrations of solutions <p><i>Demonstrate understanding on:</i></p>	<ol style="list-style-type: none"> Records of weights and measurements of raw materials and ingredients are gathered and summarized according to workplace standard operating procedure. Records of weights and measurements of finished processed products are gathered and summarized according to workplace standard operating procedures. Summarized data are tabulated according to enterprise requirements. 	LO1. Gather and tabulate the recorded data relevant to processed food production.	Present data in textual form	<ul style="list-style-type: none"> Written test Performance test 	3 hours
<ul style="list-style-type: none"> Basic Mathematical Skills: Ingredient formulations 	1. Raw materials and ingredients and percentage formulations are checked/counter checked according to approved	LO2. Review various formulations.	Exercise or drill on computations of various formulations used for raw ingredients and finished	<ul style="list-style-type: none"> Written test Performance test 	3 hours

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<ul style="list-style-type: none"> Percentage formulations Conversions Ratios and proportions 	specifications and enterprise requirements. 2. Finished products and percentage formulations are reviewed according to approved specifications and enterprise requirements.		products of fish processing.		
<ul style="list-style-type: none"> Spoilage and rejects and corresponding percentages Recoveries and yields and corresponding percentages 	1. Data on actual spoilage and rejects and corresponding percentage equivalents are calculated according to enterprise requirements. 2. Data on actual yields and recoveries and corresponding percentage equivalents are calculated according to enterprise requirements. 3. All calculated data are recorded according to enterprise requirements.	LO3. Calculate the production input and output.		<ul style="list-style-type: none"> Written test Performance test 	3 hours
<i>Demonstrate understanding on:</i> <ul style="list-style-type: none"> Ingredient formulations Percentage formulations Conversions 	1. Costs of production are computed according to standard procedures 2. Computed costs of production are reviewed and validated according to	LO4. Compute the costs of production.	Prepare paper on costs of production.	<ul style="list-style-type: none"> Written test Performance test 	3 hours

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<ul style="list-style-type: none"> Ratios and proportions Spoilage and rejects and corresponding percentages Recoveries and rejects and corresponding percentages Simple record keeping 	enterprise production requirements.				
Unit of Competency: INTERPRET PLANS AND DRAWINGS					
<i>Demonstrate understanding on:</i> <ul style="list-style-type: none"> Fish processing activities Lay-out plan of fish processing area Signs and symbols in lay-out plan and processing area 	<ol style="list-style-type: none"> Lay –out plans of fish processing area are interpreted based on set standards. Signs and symbols are translated according to established standards. 	LO1. Interpret lay-out plan.	Project on flow chart in manufacturing smoked bangus.	<ul style="list-style-type: none"> Written test Performance test 	3 hours
<ul style="list-style-type: none"> Different packaging for fish products Designing packaging materials Proper labeling (signs, symbols, content, ingredients, etc.) 	<ol style="list-style-type: none"> Fish products are packaged according to requirements and packaging standard procedures. Packaged fish products are labeled according to quality control standards 	LO2. Perform outer packaging procedures.	Make a label for canned fishery product	<ul style="list-style-type: none"> Written test Performance test 	3 hours
Unit of Competency: APPLY FOOD SAFETY AND SANITATION					

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<ul style="list-style-type: none"> • GMP Requirements on Personal Hygiene • Personal protective equipment • Parts and functions of personal protective equipment • Workplace health and safety requirements • Good grooming and personal hygiene (ex. Washing of hands,etc.) • Sanitizing PPE 	<ol style="list-style-type: none"> 1. Personal hygiene and good grooming is practiced in line with workplace health and safety requirements. 2. Personal protective equipment is cleaned, checked and sanitized. 	<p>LO1.Observe personal hygiene and good grooming.</p>	<p>Perform the operation sheet on Hand Washing Techniques As A Means Of Practicing Hygiene And Good Grooming</p>	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3 hour</p>
<ul style="list-style-type: none"> • Safety measures and practices • First aid procedures • Food safety principles and practices • Good food manufacturing practices • TQM and other food quality system principles • Codes and regulations 	<ol style="list-style-type: none"> 1. Sanitary practices in food safety are implemented in line with workplace safety regulations. 2. Cleanliness and sanitation should be strictly observed. 3. Safety measures are applied according to workplace rules and regulations. 4. First aid procedures are applied and coordinated with concerned personnel according to workplace standard operating procedures. 	<p>LO2. Implement food safety practices.</p>		<ul style="list-style-type: none"> • Written test • Performance test • 	<p>3 hours</p>

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<ul style="list-style-type: none"> • HACCP, • Proper waste disposal • Environmental protection and concerns • Monitoring practices • Record keeping procedures • 	<ol style="list-style-type: none"> 1. Food safety hazards must have and implemented HACCP plan. 2. Monitoring procedures are strictly followed. 3. Record keeping systems to document monitoring and corrective actions are developed. 	LO3. Conduct work in accordance with environmental policies and procedures	Demonstrate different ways of disposing liquid wastes	•	3 hours
<ul style="list-style-type: none"> • Environmental hazards • Procedures used to prevent or control environmental risks • Mitigation procedures • Disaster preparedness • Basic concepts of hazard identification risk assessment and control options. • Identifying and responding to hazards • Investigating incidents and improving environmental management and resource utilization • Impact of work practices on resource utilization and wastage 	<ol style="list-style-type: none"> 1. Preparedness and mitigation activities. 2. Response activities during a chemical spill. 3. Rehabilitation activity after a chemical spill. 	LO4. Participate in improving environmental practices at work.	Conduct a drill on what to do in an accidental chemical spill in a food processing plant	•	4 hours

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<ul style="list-style-type: none"> • Handling requirements for hazardous waste • Procedures for responding to unplanned incidents such as spills and leaks as relevant to the work area • Rehabilitation procedures 					
					40 Hours