

GRADES 9 OR 10

COMPONENT: AGRICULTURE AND FISHERY ARTS

SECTOR: ANIMAL PRODUCTION

DESCRIPTION: This is one of the sectors under the Agriculture and Fishery Arts consisting of the preliminary competencies in the specializations of Animal Production and Animal Health Care. It covers the necessary procedures in raising poultry, swine, and small ruminants.

QUARTER I/III

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Maintaining poultry tools, equipment, house, and facilities <ul style="list-style-type: none"> ●pre-operational check-up ●cleaning of tools, equipment, house, and facilities ●inspection of tools, equipment house, and facilities ●proper upkeep of equipment 	demonstrate an understanding of the concepts and principles in poultry production	1. discuss the procedures in maintaining poultry tools, equipment, house, and facilities according to industry standards
Optimum poultry environment <ul style="list-style-type: none"> ●temperature ●relative humidity ●air velocity ●lighting ●ventilation system ●air quality 		2. determine the proper poultry environment management

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Poultry Brooding and Growing <ul style="list-style-type: none"> ●cleaning and disinfecting poultry houses ●preparing materials for brooding and growing ●installation of brood guard curtains and portable heater ●feeding ●maintaining different types of litter Maintaining the growth of the broiler <ul style="list-style-type: none"> ●feeds and feeding ●different feeding additives ●record-keeping 		3. perform brooding and growing with safety precautions
Health Management in Poultry Raising <ul style="list-style-type: none"> ●water hygiene ●vaccination ●immunization ●preventive medication ●biosecurity 		4. discuss poultry health management
Broiler harvesting technique in accordance with industry standard		5. discuss broiler harvesting technique in accordance with industry standard
PERFORMANCE STANDARD	The learners perform poultry production practices in accordance with the industry standard	
Housing requirement for weaner, grower and finisher <ul style="list-style-type: none"> ●floor space requirement 	demonstrate an understanding of the concepts and principles in swine raising	6. layout housing requirement for weaner, grower, and finisher

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
<ul style="list-style-type: none"> ●layout 		
Maintaining housing, facilities, tools, and equipment for swine production <ul style="list-style-type: none"> ●pre-operational check-up ●cleaning of tools, equipment house, and facilities ●inspection of tools, equipment house, and facilities ●proper upkeep of equipment 		7. determine the proper maintenance of housing facilities for swine production
Swine Feeding Management <ul style="list-style-type: none"> ●importance of balanced feed ration ●sources of nutrients found in feeds ●stages of swine growth and their feeding management ●feeding guidelines for weaner, grower, and finisher ●grower to finisher ration management 		8. discuss swine feeding management according to industry standard
Weaner <ul style="list-style-type: none"> ●characteristics of desirable weaner ●commercial, semi-commercial, and backyard practices 		9. discuss the characteristics of good weaner

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Health Management for weaner, grower, and finisher <ul style="list-style-type: none"> ●water hygiene ●vaccination ●immunization ●preventive medication ●biosecurity 		10. perform the administration of vitamins
Grower/Finisher Bedding Practices <ul style="list-style-type: none"> ●suitable bedding materials ●bedding management 		11. prepare beddings for grower/finisher
PERFORMANCE STANDARD	The learners perform swine production practices in accordance with the industry standard	

QUARTER II/IV

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
<p>Maintaining housing facilities, tools, equipment, and surrounding area for small ruminants</p> <ul style="list-style-type: none"> ●farm maintenance and its importance ●farm maintenance activities (preventive and corrective) for housing facilities, tools, equipment, and surrounding area according to Occupational Safety and Health Standards (OSH) 	<p>demonstrate an understanding of the concepts and principles in small ruminant production</p>	<p>1. perform inspections on facilities, tools, equipment, and the surrounding area</p>
<p>Feeding Management of Small Ruminants</p> <ul style="list-style-type: none"> ●importance of feeding management ●types of grazing systems <ul style="list-style-type: none"> o cut and carry o full grazing o rational grazing o tethering o strip grazing ●other sources of feeds and supplements for ruminants ●crop residue ●agro-industrial by-products ●silage 		<p>2. discuss the feeding management of small ruminants</p>

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
<ul style="list-style-type: none"> ●urea-molasses-treated rice straw ●urea molasses mineral blocks ●additives minerals vitamins 		
<p>Breeding Management of Small Ruminants</p> <ul style="list-style-type: none"> ●breeding management ●parameters of breeding ●natural breeding ●breeding systems <ul style="list-style-type: none"> o pure breeding o crossbreeding o upgrading o inbreeding 		<p>3. discuss breeding management of small ruminants</p>
<p>Basic Health Care Management of Small Ruminants</p> <ul style="list-style-type: none"> ●common diseases ●symptoms, prevention, and cure 		<p>4. discuss basic health care management in small ruminants</p>
<p>Raising Small Ruminants (eg goats and sheep)</p> <ul style="list-style-type: none"> ●Care and husbandry practices in meat type <ul style="list-style-type: none"> o ear tagging o disbudding/ dehorning (optional) o removal of extra teat 		<p>5. perform raising small ruminants</p>

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
<ul style="list-style-type: none"> o castration <ul style="list-style-type: none"> ▪methods of castration <ul style="list-style-type: none"> ● burdizzo ● elastrator ● slit method o hoof trimming o grooming o body weight estimation 		
<p>Animal Production Waste Management</p> <ul style="list-style-type: none"> ●characteristics of poultry and livestock animal manure ●farm waste management practices and their principle ●poultry and livestock animal manure handling ●odor control from poultry and livestock manure 		<p>6. apply waste management in animal production</p>
PERFORMANCE STANDARD	The learners perform small ruminant production practices in accordance with the industry standard	

COMPONENT: AGRICULTURE AND FISHERY ARTS

SECTOR: AQUACULTURE (FISH CULTURE)

DESCRIPTION: This is one of the sectors under the Agriculture and Fishery Arts consisting of the preliminary competencies in the specialization of Aquaculture (Fish Culture). It covers fish hatchery, nursery, and grow-out culture practices in accordance with OSH standards.

QUARTER I/III

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Hatchery, Nursery, and Grow-out Culture <ul style="list-style-type: none"> ● fish size ● culture facilities ● stocking rate ● feeding ● post-harvest Handling 	demonstrate an understanding of the concepts and principles in fish grow-out culture	1. discuss hatchery, nursery, and grow-out culture
Site Selection for Fish Grow-out Culture <ul style="list-style-type: none"> ●water supply and sources ●soil type ●vegetation ●accessibility ●socio-economic factors <ul style="list-style-type: none"> o ideas and beliefs locally associated with aquaculture practices o storage 		2. identify suitable location for fish grow-out culture in the locality based on selected species

<ul style="list-style-type: none"> o availability of labor o electricity o medical facilities 		
<p>Design of Fish Grow-out Facilities</p> <ul style="list-style-type: none"> ● fishpond <ul style="list-style-type: none"> o kinds of dikes o types of gates o different pond compartments o different fishpond designs ● fish cage <ul style="list-style-type: none"> o parts of fish cage o materials used in constructing fish cage o different cage designs ● fish pen <ul style="list-style-type: none"> o parts of fish pen o materials used in constructing fish pen o fish pen designs ● fish tanks <ul style="list-style-type: none"> o parts of tank 		<p>3. layout perspective plan of fish grow-out facilities</p>

<ul style="list-style-type: none"> o materials used in constructing fish tank o fish tank designs 		
<p>Preparing Fish Grow-out Facility based on Selected Species</p> <ul style="list-style-type: none"> ●tools, materials, and equipment ●steps in preparing grow-out facility in accordance with OSH standards 		<p>4. prepare fish grow-out facility based on identified species in accordance with OSH standards</p>
<p>Stocking of Fingerlings</p> <ul style="list-style-type: none"> ●stocks, stocking, and stocking rate ●stocking density ●steps in stocking fingerlings and the importance of acclimatization 		<p>5. perform stocking of fingerlings</p>
<p>PERFORMANCE STANDARD</p>	<p>The learners perform fish grow-out culture in accordance with OSH standards</p>	

QUARTER II/IV

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Feeds and Feeding <ul style="list-style-type: none"> • feeds and its forms • alternative feed sources • Daily Feed Allowance (DFA) • feeding methods • storing of feeds 	demonstrate an understanding of the concepts and principles in fish grow-out culture	1. perform feeding of stocks
Sampling of Stocks <ul style="list-style-type: none"> • importance of stock sampling • tools and materials in stock sampling • safety measures to be observed during stock sampling • procedures in stock sampling • gathering of sample stocks <ul style="list-style-type: none"> ▪ data gathering (length, width, average body weight) ▪ data recording and analysis 		2. perform the procedure in sampling of stocks

<p>Maintaining Water Quality for Fish Grow-out Culture</p> <ul style="list-style-type: none"> • water parameters and its optimum level <ul style="list-style-type: none"> ▪ temperature ▪ salinity ▪ hydrogen-ion concentration (ph) ▪ dissolved oxygen ▪ turbidity • tools and equipment in water monitoring and evaluation 		<p>3. perform maintaining water quality for fish grow-out culture</p>
<p>Fish Health Management</p> <ul style="list-style-type: none"> • causes of fish diseases • signs, symptoms, prevention, and control of common fish diseases • steps in sampling and diagnosing fish disease • mortality rate 		<p>4. apply health management to avoid mortality</p>

<p>Harvest and Post-Harvest Handling of Cultured Fish</p> <ul style="list-style-type: none"> • materials for harvesting fish • methods of harvesting fish • materials, tools, and equipment for sorting and packing fish • sorting of fish • packing and transporting harvested fish <ul style="list-style-type: none"> ▪ live fish ▪ iced fish 		<p>5. perform harvesting of cultured fish</p> <p>6. perform post-harvest handling of fish in accordance with industry standards</p>
<p>Selling Harvested Stocks</p> <ul style="list-style-type: none"> • cost and return analysis 		<p>7. sell harvested stocks</p> <p>8. prepare report based on cost and return analysis</p>
<p>PERFORMANCE STANDARD</p>	<p>The learners perform fish grow-out culture in accordance with OSH standards</p>	

COMPONENT: AGRICULTURE AND FISHERY ARTS
SECTOR: AGRICULTURAL CROP PRODUCTION

DESCRIPTION: This is one of the sectors under the Agriculture and Fishery Arts consisting of the preliminary competencies in the specializations of Agricultural Crop Production and Organic Agriculture. It covers Agri-crop operations following the industry practices.

QUARTER I/III

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Keeping records of materials, tools, and equipment	demonstrate an understanding of the concepts and principles in agri-crop operations following the industry practices	1. prepare records of the different materials, tools, and equipment used in agricultural crop production
Performing nursery operations <ul style="list-style-type: none"> • establish nursery facilities • repair and maintenance of nursery facilities • safety measures on maintenance of nursery facilities 		2. perform nursery operations according to Occupational Safety and Health Standards
Plant propagation <ul style="list-style-type: none"> • types, kinds, varieties, and characteristics of planting material <ul style="list-style-type: none"> ▪ seeds ▪ plant parts • methods of plant propagation <ul style="list-style-type: none"> ▪ sexual ▪ asexual 		3. perform plant propagation

<p>Seed testing</p> <ul style="list-style-type: none"> • germination of seed <ul style="list-style-type: none"> ▪ ragdoll ▪ petri dish ▪ seed box/seed tray • floating in the water • winnowing 		<p>4. perform seed testing</p>
<p>Preparing growing media</p> <ul style="list-style-type: none"> • substrates used in growing media • ratio and proportion • potting/bagging 		<p>5. prepare growing media</p>
<p>PERFORMANCE STANDARD</p>	<p>The learners perform agri-crop operations following the industry practices</p>	

QUARTER II/IV

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
<ul style="list-style-type: none"> • Systems of planting <ul style="list-style-type: none"> ▪ quincunx ▪ square ▪ hexagonal ▪ triangular ▪ contour • Plant population • Field layout 	demonstrate an understanding of the concepts and principles in agri-crop operations following the industry practices	1. discuss systems of planting 2. perform field layout
Agricultural practices in planting crops <ul style="list-style-type: none"> • soil analysis • land preparation • mulching techniques • planting • transplanting 		3. perform agricultural practices in planting crops according to natural farming
Fertilizer application <ul style="list-style-type: none"> • types of fertilizer (organic and inorganic) • nutrients requirement • fertilizer computation • Occupational Safety and Health (OSH) standards in fertilizer application 		4. apply fertilizer according to plant requirements and OSH standards

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Prevention and control of common pests and diseases <ul style="list-style-type: none"> • different pests and diseases • sign and symptoms • prevention and control • OSH in managing pests and diseases 		5. apply prevention and control of common pests and diseases according to OSH standards
Harvesting and post-harvest handling practices of different crops <ul style="list-style-type: none"> • harvesting practices • handling of harvested crops • packaging of harvested crops 		6. perform harvesting and post-harvest handling practices
PERFORMANCE STANDARD	The learners perform agri-crop operations following the industry practices	
Selling crops <ul style="list-style-type: none"> • selling strategies • challenges in selling crops Cost and Return Analysis	prepare cost and return analysis	7. perform selling of products 8. prepare cost and return analysis
PERFORMANCE STANDARD	The learners perform selling of products	

COMPONENT: AGRICULTURE AND FISHERY ARTS

SECTOR: FISH CAPTURE

DESCRIPTION: This is one of the sectors under Agriculture and Fishery Arts consisting of the preliminary competencies in the specializations of Fish Capture and Fishing Gear Repair and Maintenance. It covers concepts, principles, and skills in fish capture and Fishing Gear Repair and Maintenance in accordance with OSH standards.

QUARTER I/III

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Background of fish capture <ul style="list-style-type: none"> • history of fish capture • status of fish capture in the Philippines • the trends of fish capture Protecting marine environment <ul style="list-style-type: none"> • garbage disposal procedures • guidelines and implementation 	demonstrate an understanding of the concepts and principles of fish capture in accordance with OSH standards	1 discuss the background of fish capture
Safety measures in fish capture operations <ul style="list-style-type: none"> • areas of concern for safety measures <ul style="list-style-type: none"> ▪ place ▪ time ▪ work tasks ▪ Occupational Safety and Health (OSH) Procedure <ul style="list-style-type: none"> ▪ basic first aid treatment ▪ proper lifting techniques for heavy objects ▪ o Personal Protective Equipment (PPE) 		2 discuss protecting the marine environment 3 discuss safety measures in fish capture operations

<p>Weather information for safe navigation</p> <ul style="list-style-type: none"> • weather and oceanography • navigational charts and nautical publications • navigational hazards 		<p>4. discuss the weather information for safe navigation</p>
<p>Mesh nets, beach seines, and gill nets</p> <ul style="list-style-type: none"> • mesh nets • beach seine <ul style="list-style-type: none"> ▪ parts and function • gill nets <ul style="list-style-type: none"> ▪ types ▪ parts and function • equipment and tools for adjusting <ul style="list-style-type: none"> ▪ beach seines and gill nets • techniques for slinging beach seines and gill nets • applicability based on national law and local ordinances <ul style="list-style-type: none"> ▪ fishing strategy 		<p>5. discuss different parts and types of nets and its function, and applicability based on national law and local ordinances</p> <p>6. discuss fishing strategies</p>
<p>Net weaving</p> <ul style="list-style-type: none"> • materials and tools • methods of net weaving <ul style="list-style-type: none"> ▪ chaining out ▪ half mesh ▪ whole mesh ▪ increasing ▪ decreasing ▪ combination ▪ fly mesh method ▪ starting from an old net method 		<p>7. perform net weaving with safety precautions</p>
<p>Net mending</p> <ul style="list-style-type: none"> • repairing 		<p>8. perform net mending with safety precautions</p>

<ul style="list-style-type: none"> • patching 		
<p>Net casting</p> <ul style="list-style-type: none"> • components • casting techniques • fishing strategy 		<p>9. perform net casting with safety precautions</p>
<p>PERFORMANCE STANDARD</p>	<p>The learners perform net weaving, mending, and casting accordance with OSH standards</p>	

QUARTER II/IV

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Pots and traps used in capturing fish <ul style="list-style-type: none"> • types of pots and traps • basic operation • fishing strategies 	demonstrate an understanding of the concepts and principles of fish capture in accordance with OSH standards	1. discuss pots and traps
Tools and equipment in fish capture in small scale operation <ul style="list-style-type: none"> • fishing equipment <ul style="list-style-type: none"> ▪ fishing boat <ul style="list-style-type: none"> <input type="checkbox"/> motorized <input type="checkbox"/> non-motorized ▪ electrical equipment ▪ fishing tools ▪ power tools ▪ handheld tools • safety practices in using fishing tools and equipment 		2. operate tools and equipment in fish capture in accordance with OSH standard
Fishing vessels <ul style="list-style-type: none"> • classification of fishing vessels • parts and function • basic maintenance of fishing vessel 		3. discuss the different types of fishing vessels, its parts and function, and its maintenance
Municipal fishing vessel (up to 30 gross tons)		4. discuss the characteristics and structural design of a municipal fishing vessels and the applicable fishing regulations

<ul style="list-style-type: none"> • Characteristics of a fishing vessel of up to 30 Gross Tons • structural design • fishing regulations when using fishing vessel 30 Gross Tons 		
<p>Handling Practices in Fish Capture</p> <ul style="list-style-type: none"> • Handling techniques and procedures • Safety principles and requirements 		<p>5. discuss handling practices in fish capture with the OSH standards</p>
<p>PERFORMANCE STANDARD</p>	<p>The learners operate tools and equipment in fish capture in accordance with OSH standard</p>	

COMPONENT: AGRICULTURE AND FISHERY ARTS
SECTOR: FOOD AND BEVERAGE PROCESSING

DESCRIPTION: This is one of sectors under the Agriculture and Fishery Arts consisting of the preliminary competencies in the specialization of Food Processing. It covers food and fruit juice processing in accordance with the industry standards.

QUARTER I/III

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Economic Demands/Potentials in the Area for Food Processing	demonstrate an understanding of the concepts and principles in Food Processing in accordance with industry standard	1. identify the economic demands/ potentials in the area
Selecting, receiving, and handling of raw materials and supplies for food processing		2. discuss the process of selecting, receiving, and handling raw materials, and supplies
Processing food <ul style="list-style-type: none"> • Occupational Safety and Health Standard (OSH) • tools and equipment • sorting and inspection of raw materials • processing methods 		3. perform food processing
Packaging processed foods in accordance with industry standards <ul style="list-style-type: none"> • packing • packaging • labeling 		4. perform packaging and labeling
Product Costing of Processed Foods		5. perform product costing of processed foods

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Marketing Processed Foods <ul style="list-style-type: none"> • innovative and creative techniques in marketing products 		6. discuss strategies in marketing processed foods
PERFORMANCE STANDARD	The learners demonstrate food processing in accordance with industry standard	
Selling Techniques <ul style="list-style-type: none"> • packaging and labeling • selling strategies 	demonstrate an understanding of the concepts and principles of selling finished product	7. perform selling finished product
PERFORMANCE STANDARD	The learners perform selling finished product	

QUARTER II/IV

CONTENT	CONTENT STANDARD The learners...	LEARNING COMPETENCIES The learners...
Types of Fruit Juices <ul style="list-style-type: none"> • clear juices • citrus juices • tropical juices • fruit nectars • fruit punches and juice • drinks 	demonstrate an understanding of the concepts and principles in Food Processing in accordance with industry standard	1. discuss types of fruit juices and beverages
Extracting Methods for Juice Processing: <ul style="list-style-type: none"> • pressing • extraction • pulping • centrifugation • rough filtration Tools and equipment Occupation Health and Safety		2. discuss appropriate methods for juice processing
PERFORMANCE STANDARD		The learners demonstrate Fruit Juice Processing in accordance with industry standard
Selling of Finished Products	demonstrate an understanding of the concepts and principles of selling finished product	4. perform selling finished product
PERFORMANCE STANDARD	The learners perform selling finished product	