

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – AGRICULTURAL CROPS PRODUCTION (NC II)
(640 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 course is designed to develop the knowledge, skills, and desirable attitudes of an individual in the field of Agricultural Crops Production National Certificate Level II (NC II). The student is expected to demonstrate **common competencies** in applying safety measures in farm operations, use farm tools and equipment, estimate and calculate, and process farm waste. It also includes the development of **core competencies** such as performing nursery operations, planting crops, caring for and maintaining crops, and carry out harvest and postharvest activities.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
Introduction 1. Basic concepts in agricultural crops production 2. Relevance of the course 3. Career opportunities	The learners demonstrate an understanding of the basic concepts and underlying theories in agricultural crops production	The learners shall be able to demonstrate common competencies in agricultural crops production as prescribed by TESDA Training Regulations	The learners... 1. Explain basic concepts in agricultural crops production 2. Discuss the relevance of the course 3. Explore career opportunities in agricultural crops production	
PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)				
1. Assessment of Personal Competencies and Skills (PECs) vis-à-vis PECs of a practicing entrepreneur/employee 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PECs compared to those of a practitioner 3. Align one's PECs based on the results of the assessment	The learners demonstrate an understanding of one's PECs in agricultural crops production	The learners shall be able to prepare an activity plan that aligns with the PECS of a practitioner/entrepreneur in agricultural crops production	LO 1. Recognize Personal Entrepreneurial Competencies and Skills (PECs) needed in agricultural crops production 1.1 Compare one's PECs with those of a practitioner/entrepreneur 1.2 Align one's PECs with those of a practitioner/entrepreneur 1.3 Assess one's PECs 1.4 Assess practitioner's PECs	TLE_PECs7-12-00-1

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1. Strengthening and developing further one's PECs	The learners demonstrate an understanding of one's PECs in agricultural crops production	The learners shall be able to create a plan of action that strengthens/develops one's PECs in agricultural crops production	LO 2. Develop and strengthen personal competencies and skills (PECs) needed in agricultural crops production 2.1 Identify areas for improvement, development and growth 2.2 Align one's PECs according to his/her business/career choice 2.3 Create a plan of action that ensures success of his/her business/career choice	TLE_PECs7-12-00-2
ENVIRONMENT AND MARKET (EM)				
Market (Town) 1. Key concepts of market 2. Players in the market (competitors) 3. Products & services available in the market	The learners demonstrate an understanding of the concepts of environment and market and how they relate to the field of agricultural crops production, particularly in one's town/ municipality	The learners shall be able to create a business vicinity map reflective of the potential agricultural crops production market in the locality/town	LO 1. Recognize and understand the market in agricultural crops production 1.1 Identify the players/ competitors within the town 1.2 Identify the different products/services available in the market	TLE_EM7-12-00-1
Market (customer) 1. Key concepts in identifying and understanding the consumer 2. Consumer analysis through: 2.1 Observation 2.2 Interviews 2.3 Focus group discussion (FGD) 2.4 Survey			LO 2. Recognize the potential customer/ market in agricultural crops production 2.1 Profile potential customers 2.2 Identify the customer's needs and wants through consumer analysis 2.3 Conduct consumer/market analysis	TLE_EM7-12-00-2

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<ol style="list-style-type: none"> 1. Generating business ideas <ol style="list-style-type: none"> 1.1 Key concepts in generating business ideas 1.2 Knowledge, skills, passions, and interests 1.3 New applications 1.4 Irritants 1.5 Striking ideas (new concepts) 1.6 Serendipity Walk 			<p>LO 3. Create new business ideas in agricultural crops production by using various techniques</p> <ol style="list-style-type: none"> 3.1 Explore ways of generating business ideas from ones’ own characteristics/attributes 3.2 Generate business ideas using product innovation from irritants, trends, and emerging needs 3.3 Generate business ideas using Serendipity Walk 	TLE_EM7-12-00-3
<ol style="list-style-type: none"> 1. Product development 2. Key concepts in developing a product 3. Finding Value 4. Innovation <ol style="list-style-type: none"> 4.1 Unique Selling Proposition (USP) 	<p>The learners demonstrate an understanding of concepts of environment and market and how they relate to agricultural crops production, particularly in one’s town/municipality</p>	<p>The learners shall be able to create a business vicinity map reflective of the potential agricultural crops production market within the locality/town</p>	<p>LO 4. Develop a product/service in agricultural crops production</p> <ol style="list-style-type: none"> 4.1 Identify what is of “value” to the customer 4.2 Identify the customer 4.3 Explain what makes a product unique and competitive 4.4 Apply creativity and innovative techniques to develop marketable product 4.5 Employ a USP to the product/service 	TLE_EM7-12-00-4
<ol style="list-style-type: none"> 1. Selecting business idea 2. Key concepts in selecting a business idea <ol style="list-style-type: none"> 2.1 Criteria 2.2 Techniques 			<p>LO 5. Select a business idea based on the criteria and techniques set</p> <ol style="list-style-type: none"> 5.1 Enumerate various criteria and steps in selecting a business idea 5.2 Apply the criteria/steps in selecting a viable business idea 5.3 Determine a business idea based on the criteria/techniques set 	TLE_EM7-12-00-5

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
Branding			LO 6. Develop a brand for the product 6.1 Identify the benefits of having a good brand 6.2 Enumerate recognizable brands in the town/province 6.3 Enumerate criteria for developing a brand 6.4 Generate a clear appeal	TLE_EM7-12-00-6
COMMON COMPETENCIES				
LESSON 1: APPLYING SAFETY MEASURES IN FARM OPERATIONS (ASMO)				
<ul style="list-style-type: none"> • Work tasks in farm operations • Places for safety measures • Time for safety measures • Tools, materials, and outfits <ul style="list-style-type: none"> - PPE 	The participants demonstrate an understanding of the underlying theories in applying safety measures in farm operations	The learners shall be able to apply safety measures in farm operations	LO 1. Determine areas of concern for safety measures 1.1 Identify work tasks in line with farm operations 1.2 Determine place for safety measures in line with farm operations 1.3 Determine time for safety measures in line with farm operations 1.4 Prepare appropriate tools, materials, and outfits in line with job requirements	TLE_AFAACP9-12ASMO-Ia-b-1
<ul style="list-style-type: none"> • Safety precautions in using tools and materials <ul style="list-style-type: none"> - Checkup and repair of tools, materials and outfits before using • PPE • Effectivity/shelf life/expiration of materials <ul style="list-style-type: none"> - Principles of HACCP • Farm emergency procedures • Basic First Aid • Hazards/risks in the workplace • Compliance to health program of DOH & OSHS 			LO 2. Apply appropriate safety measures 2.1 Use tools and materials according to specifications and procedures 2.2 Wear outfits according to farm requirements. 2.3 Observe strictly the effectivity/shelf life/expiration of materials. 2.4 Follow emergency procedures to ensure a safe work requirement. 2.5 Report hazards in the workplace in line with farm guidelines.	TLE_AFAACP9-12ASMO-Ic-g-2

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<ul style="list-style-type: none"> • Proper storage of tools, materials and outfit <ul style="list-style-type: none"> - Checkup and repair of tools, materials, and outfit after use • Labeling and storing of unused materials • Waste management <ul style="list-style-type: none"> - Compliance with DENR regulations 			LO 3. Safekeep/dispose of tools, materials, and outfit 3.1 Perform cleaning and storing of used tools and outfit in designated areas 3.2 Perform labeling and storing of unused materials according to manufacturer’s recommendation and farm requirements 3.3 Perform proper disposal of waste materials according to manufacturers, government, and farm requirements	TLE_AFAACP9-12ASMO-Ih-j-3
LESSON 2: USING FARM TOOLS AND EQUIPMENT (UFTE)				
<ul style="list-style-type: none"> • Farm tools and their uses • Pre-operation checkup of tools • Safety procedures in using tools 	The learners demonstrate an understanding of the underlying theories in using farm tools and equipment	The learners shall be able to use farm tools and equipment based on manufacturer’s manual	LO 1. Select and use farm tools 1.1 Identify appropriate farm tools according to requirement/use 1.2 Report for faults and defects of farm tools in accordance with farm procedures 1.3 Follow safety procedures in using appropriate tools according to job requirements and manufacturer’s conditions	TLE_AFAACP9-12UFTE-IIa-b-4
<ul style="list-style-type: none"> • Farm equipment and their operation • Pre-operation checkup of equipment • Safety procedures in operating equipment 			LO 2. Select and operate farm equipment 2.1 Identify appropriate farm equipment 2.2 Read carefully instructional manual of the farm tools and equipment prior to operation 2.3 Conduct pre-operation checkup in line with manufacturer’s manual 2.4 Report faults in farm equipment in line with farm procedures 2.5 Perform farm equipment operation according to their function 2.6 Follow safety procedures in operating farm equipment	TLE_AFAACP9-12UFTE-IIc-g-5

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<ul style="list-style-type: none"> • Routine checkup and maintenance of tools and equipment • Storage of tools and equipment in line with farm procedures 			<p>LO 3. Perform preventive maintenance</p> <p>3.1 Perform routine checkup and maintenance of tools and equipment</p> <p>3.2 Store tools and equipment in designated areas in line with farm procedures</p>	<p>TLE_AFAACP9-12UFTE-IIh-j-6</p>
LESSON 3: PERFORMING ESTIMATION AND BASIC CALCULATION (PEBC)				
<ul style="list-style-type: none"> • Farm inputs • Labor requirement • Estimating farm inputs and labor requirements • Reporting estimation to appropriate person 	<p>The learners demonstrate an understanding of the underlying theories in performing estimation and basic calculation</p>	<p>The learners shall be able to perform estimation and basic calculation</p>	<p>LO 1. Perform estimation</p> <p>1.1 Identify job requirements from written or oral communications</p> <p>1.2 Estimate quantities of materials and resources require to complete a work task</p> <p>1.3 Estimate the time needed to complete a work activity</p> <p>1.4 Estimate farm inputs and labor requirements for work completion</p> <p>1.5 Report estimate of materials and resources to appropriate person</p>	<p>TLE_AFAACP9-12PEBC-IIIa-e-7</p>
<ul style="list-style-type: none"> • Perform calculation using four basic mathematical operations <ul style="list-style-type: none"> - Basic accounting principles and procedures • System of measurement • Units of measurement • Conversion of units • Fraction and decimals • Percentage and ratio 			<p>LO 2. Perform basic workplace calculation</p> <p>2.1 Identify calculations to be made according to job requirements.</p> <p>2.2 Identify correct method of calculation.</p> <p>2.3 Follow ascertain system and units of measurement.</p> <p>2.4 Perform calculation needed to complete work tasks using the four basic process of addition, division, multiplication and subtraction.</p> <p>2.5 Calculate whole fraction, percentage and mixed number to complete the task.</p>	<p>TLE_AFAACP9-12PEBC-IIIh-h-8</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
LESSON 4: PROCESSING FARM WASTES (PFW)				
<ul style="list-style-type: none"> • Tools and materials for collection of farm wastes • Collection of wastes <ul style="list-style-type: none"> - Waste collection requirements and plan - OSHS - HAZMAT protocol - Profitability of the operation - Volume of wastes • Wearing of PPE 	The learners demonstrate an understanding of the underlying theories in processing farm waste	The learners shall be able to process farm waste according to set standards	LO 1. Collect farm waste 1.1 Prepare tools and materials for collection of farm waste 1.2 Collect waste following OSHS and waste collection requirements and plan 1.3 Collect dangerous and hazardous wastes following the HAZMAT protocol 1.4 Wear appropriate PPE as prescribed by OSHS.	TLE_AFAAPC9-12PFW-IIIi-j-IVa-9
<ul style="list-style-type: none"> • Identification of waste by categories <ul style="list-style-type: none"> - Obtaining information from authority regarding wastes identification • Waste segregation <ul style="list-style-type: none"> - Sorting - Placing in labeled containers 			LO 2. Identify and segregate wastes 2.1 Identify waste by categories according to industry standards and environmental legislation 2.2 Perform waste segregation according to organizational requirements and relevant legislation 2.3 Placing sorted waste into labeled container to avoid littering and prevent cross-contamination 2.4 Obtain information on waste by asking authority to ensure correct identification	TLE_AFAACP9-12PFW-IVb-d-10
<ul style="list-style-type: none"> • Proper handling of waste <ul style="list-style-type: none"> - OSHS • Processing of farm waste <ul style="list-style-type: none"> - OSHS • Waste segregation list • Principles of 3Rs • Environmental legislations/policies on 			LO 3. Treat and process farm wastes 3.1 Handle dangerous and hazardous wastes according to organizational requirements and relevant legislation following OSHS procedures 3.2 Process farm waste following environmental legislation and codes	TLE_AFAACP9-12PFW-IVe-g-11

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waste management and disposal			3.3 Apply principles of 3Rs (reduce, reuse and recycle) accordingly 3.4 Dispose of processed farm waste according to environmental legislation and codes	
<ul style="list-style-type: none"> • Placing of warning signs and labels in workplace • Cleaning of work area <ul style="list-style-type: none"> - 5 S of good housekeeping - Housekeeping schedule - Maintenance schedule - Housekeeping inspection checklist • Cleaning and checking tools <ul style="list-style-type: none"> - industry procedures & user's manual • Storage of materials and equipment <ul style="list-style-type: none"> - industry procedures - inspection of PPE and equipment • Record keeping according to industry requirements 			LO 4. Perform housekeeping 4.1 Display appropriate warning signs and labels in conspicuous places around the workplace 4.2 Clean work area according to 5S principles 4.3 Check, clean, and stow away tools according to established industry procedures and following user's manual 4.4 Store materials following industry standard procedures and manufacturer's specifications 4.5 Check PPE for damage and ensure that clean and undamaged equipment is properly stored 4.6 Perform record keeping according to industry requirements	TLE_AFAACP9-12PFW-IVh-j-12
LESSON 5: PERFORMING RECORD KEEPING (PRK)				
<ul style="list-style-type: none"> • Conduct inventory <ul style="list-style-type: none"> - Breakdown/repair report - Salvage report - Tag out bill - Inspection report - Codes and laws on facilities inspection 	The learners demonstrate an understanding of the underlying theories in performing record keeping	The learners shall be able to perform record keeping	LO 1. Carry out inventory activities 1.1 Determine inventory inputs according to enterprise requirements 1.2 Determine defective tools and equipment according to operation manuals 1.3 Inspect facilities according to standard codes and laws	TLE_AFAAPC9-12PRK-Ia-b-13

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<ul style="list-style-type: none"> • Preparation of production plan <ul style="list-style-type: none"> - Importance of production plan - Schedule of production activities - Planting calendar - Work plan • Preparation of production report • Monitoring inputs and production <ul style="list-style-type: none"> - Monitoring Chart 			LO2. Maintain production record 2.1 Prepare production plan according to enterprise requirements 2.2 Prepare schedule for production activities based from enterprise requirements and plan 2.3 Prepare production report in accordance with enterprise reporting procedures 2.4 Monitor input and production using monitoring chart	TLE_AFAAPC9-12PRK-Ic-f-14
<ul style="list-style-type: none"> • Cost and return analysis <ul style="list-style-type: none"> - Compute for production cost - Compute for revenue and return of investment (ROI) • Preparation of financial report 			LO 3. Prepare financial records 3.1 Compute production cost using established computation procedures 3.2 Compute revenue using established computation procedures	TLE_AFAACP9-12PRK-Ig-j-15
CORE COMPETENCIES				
LESSON 6: PERFORMING NURSERY OPERATIONS (PNO)				
<ul style="list-style-type: none"> • Preparation of nursery tools, farm implements and simple equipment <ul style="list-style-type: none"> - Pre-operative checking - Phil GAP – Philippine Good Agricultural Practices • Segregation and treatment of tools 	The learners demonstrate an understanding of the underlying concepts and principles in performing nursery operations	The learners shall be able to perform nursery operations based on required task	LO 1. Prepare nursery tools, farm implements, and simple equipment 1.1 Prepare tools, farm implements, and simple equipment according to work requirements 1.2 Perform basic pre-operative checking of tools, farm implements and equipment in accordance with manufacturer’s manual and Phil GAP (Philippine Good Agricultural Practices) standard	TLE_AFAACP9-12PNO-IIa-c-16

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AGRI-FISHERY ARTS – AGRICULTURAL CROPS PRODUCTION (NC II)
(640 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
<ul style="list-style-type: none"> - Worn out tools - Tools with corrosion - Maintenance plan 			1.3 Perform segregation and treatment of tools with wear and corrosion according to maintenance plan and procedures	
<ul style="list-style-type: none"> • Maintenance of nursery cleanliness and sanitation using Phil GAP <ul style="list-style-type: none"> - Phil GAP on cleanliness and sanitation • Repair and maintenance of nursery facilities • Preventive measures for inclement weather <ul style="list-style-type: none"> - inclement weather - installation of preventive measures • Practice safety measures on maintenance of nursery facilities 			LO 2. Maintain nursery facilities 2.1 Perform maintenance of nursery cleanliness and sanitation according to Phil GAP standard 2.2 Perform repair and maintenance of nursery facilities to maximize their efficiency and effectiveness 2.3 Apply preventive measures for inclement weather 2.4 Practice safety measures according to OSHS	TLE_AFAACP9-12PNO-IIId-f-17
<ul style="list-style-type: none"> • Determining planting materials <ul style="list-style-type: none"> - different planting materials - kinds and varieties • Selection of quality seeds <ul style="list-style-type: none"> - characteristics of quality seeds • Seed testing • Treatment of planting materials • Seed scarification for different types of crops 			LO 3. Handle seeds/planting materials 3.1 Determine planting materials according to kinds and varieties 3.2 Select quality seeds according to prescribed characteristics 3.3 Conduct seed testing to determine the percentage germination of the seedstock in accordance with the standard procedures 3.4 Treat planting materials following standard protocol 3.5 Perform seed scarification for germination purposes based on type of crop	TLE_AFAACP9-12PNO-IIg-i-18

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(640 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
<ul style="list-style-type: none"> • Preparation of the growing media • Potting/bagging of growing media <ul style="list-style-type: none"> - arranging of potted plants - labeling containers • Seedbed preparation of different crop species 			<p>LO 4. Prepare growing media</p> <p>4.1 Prepare growing media according to prescribed mixture and crop requirement</p> <p>4.2 Perform placing of growing media in prescribed containers according to crop requirements</p> <p>4.3 Perform arranging and labeling containers according to varieties/species</p> <p>4.4 Prepare seedbed based on crop species</p>	<p>TLE_AFAACP9-12PNO-IIj-IIIa-b-19</p>
<ul style="list-style-type: none"> • Setting up of nursery shed • Selection of quality seedlings • Selection of propagation materials based on propagation activities • Plant propagation <ul style="list-style-type: none"> - Plant propagation techniques • Maintenance of seedlings <ul style="list-style-type: none"> - maintain of germinated seedlings until established - pricking and thinning 			<p>LO 5. Conduct propagation activities</p> <p>5.1. Set up nursery shed according to plant requirement</p> <p>5.2. Select quality seedlings based on prescribed characteristics</p> <p>5.3. Select propagation materials according to propagation activity</p> <p>5.4. Perform plant propagation techniques based on recommended practices</p> <p>5.5. Maintain germinated seedlings until fully established</p> <p>5.6. Prick and thin seedlings based on recommended practices.</p>	<p>TLE_AFAACP9-12PNO-IIIc-j-20</p>
LESSON 7: PLANTING CROPS (PLCR)				
<ul style="list-style-type: none"> • Preparation of tools, materials, and equipment for land preparation • Kinds of land preparation • Land preparation procedures <ul style="list-style-type: none"> - clearing - removal and disposal of 	<p>The learners demonstrate an understanding of the underlying concepts and principles in performing planting crops</p>	<p>The learners shall be able to plant crops</p>	<p>LO 1. Prepare land for planting</p> <p>1.1 Prepare tools, materials, and equipment for land clearing</p> <p>1.2 Clear the land according to prescribed methods of land preparation</p> <p>1.3 Remove and dispose of debris according to waste management standards</p>	<p>TLE_AFAACP9-12PLCR-IVa-f-21</p>

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AGRI-FISHERY ARTS – AGRICULTURAL CROPS PRODUCTION (NC II)
(640 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
<ul style="list-style-type: none"> debris • Soil analysis • Application of basal fertilizer <ul style="list-style-type: none"> - Safety precautions in handling fertilizer following OSHS 			<ul style="list-style-type: none"> 1.4 Collect soil samples for analysis based on standard procedure 1.5 Conduct land preparation according to crop requirement 1.6 Apply basal fertilizer based on crop requirement 1.7 Follow safety procedures for fertilizer application according to OHS standards 	
<ul style="list-style-type: none"> • Preparation of tools and materials in field layout • Interpretation of field layout plan • Laying out of field • Systems of planting 			<p>LO 2. Conduct field lay-out</p> <ul style="list-style-type: none"> 2.1 Prepare tools and materials for field layout 2.2 Interpret field layout plan according to the recommended planting system 2.3 Lay out field according to recommended planting system 	<p>TLE_AFAACP9-12PLCR-IVg-j-Ia-22</p>
<ul style="list-style-type: none"> • Digging holes per crop requirement <ul style="list-style-type: none"> - methods in digging holes - steps in digging holes • Application of basal fertilizer <ul style="list-style-type: none"> - recommended amount of fertilizers 			<p>LO 3. Dig holes</p> <ul style="list-style-type: none"> 3.1 Dig holes based on crop requirement 3.2 Separate top soil to be used in covering the hole after planting 3.3 Apply basal fertilizer based on recommended amount 	<p>TLE_AFAACP9-12PLCR-Ib-d-23</p>
<ul style="list-style-type: none"> • Methods of direct seeding • Rate, distance, and depth of planting • Replanting • Practicing OSHS and Phil GAP 			<p>LO 4. Perform direct seeding</p> <ul style="list-style-type: none"> 4.1 Perform planting seeds according to recommended rate, distance, and depth 4.2 Perform replant according to recommended practices for a particular crop 4.3 Follow safety procedures according to OSHS and Phil GAP. 	<p>TLE_AFAACP9-12PLCR-Ie-j-24</p>

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(640 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
LESSON 8: CARING AND MAINTAINING CROPS (CAMC)				
<ul style="list-style-type: none"> • Monitoring of pest incidence <ul style="list-style-type: none"> - Types of pests <ul style="list-style-type: none"> ○ diseases ○ insects ○ weeds ○ rodents ○ stray animals ○ mollusks • Preparation of tools and materials per pest control measures • Methods of pest control • Safety procedures in handling pesticides 	The learners demonstrate an understanding of the underlying concepts and principles in caring and maintaining crops	The learners shall be able to care for and maintain crops	LO 1. Apply pest control measure <ol style="list-style-type: none"> 1.1 Perform monitoring of pests incidence based on prescribed procedure 1.2 Prepare tools and materials according to specific pest control measure 1.3 Follow appropriate pest control measures based on Phil GAP 1.4 Practice safety measures according to 1.5 OHS procedures 	TLE_AFAACP9-12CAMC-IIa-e-25
<ul style="list-style-type: none"> • Preparation of tools and materials in fertilizer application <ul style="list-style-type: none"> - kinds of fertilizers • Application of fertilizers <ul style="list-style-type: none"> - fertilizer rate - methods of fertilizer application - precautionary measures on fertilizer application based from Phil GAP • OSHS in fertilizer application 			LO 2. Apply fertilizer <ol style="list-style-type: none"> 2.1 Prepare tools and materials in fertilizer application according to prescribed user's manual 2.2 Identify fertilizers based on kinds. 2.3 Apply fertilizer rates based on crop requirements 2.4 Employ appropriate method of fertilizer application based on crop requirements 2.5 Apply precautionary measures to avoid cross-contamination based on Phil GAP 2.6 Follow safety procedures according to OSHS 	TLE_AFAACP9-12CAMC-IIIf-j-IIIa-e-26
<ul style="list-style-type: none"> • Determining soil moisture • Watering of crops <ul style="list-style-type: none"> - methods of irrigation 			LO 3. Water crops <ol style="list-style-type: none"> 3.1 Determine soil moisture content based on soil field capacity 	TLE_AFAACP9-12CAMC-IIIf-j-27

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
<ul style="list-style-type: none"> - when to irrigate • Practicing Phil GAP standards for watering crops 			3.2 Perform watering following the prescribed method and schedule. 3.3 Observe Good Agricultural Practices.	
<ul style="list-style-type: none"> • Tools and materials in pruning • Importance of pruning • What and when to prune • Steps in pruning • Safety measures in pruning per OSHS and PNS: PAES 10 			LO 4. Perform pruning 4.1 Prepare tools and materials for pruning. 4.2 Perform pruning method according to crops. 4.3 Follow safety procedures according to OSHS and PNS:PAES 101	TLE_AFAACP9-12CAMC-IVa-j-28
<ul style="list-style-type: none"> • Preparation of tools and equipment for cultivation per OSHS and PNS: PAES 101 • Cultivation practices per crop requirement • Plant rejuvenation • Growth training techniques for different crops • Mulching techniques per crop • Application of OSHS on physical growth-enhancing activities 			LO 5. Perform physical growth-enhancing practices 5.1 Prepare tools and equipment for cultivation according to PNS: PAES 101 5.2 Carry out cultivation practices based on crop requirement 5.3 Perform rejuvenating activities according to established cultural practices 5.4 Perform growth training technique for different crops 5.5 Carry out mulching techniques based on crops 5.6 Follow safety procedures according to OSHS	TLE_AFAACP9-12CAMC-Ia-j-29
LESSON 9: CARRYING OUT HARVEST AND POSTHARVEST OPERATIONS (CHPO)				
<ul style="list-style-type: none"> • Identification of crop maturity <ul style="list-style-type: none"> - maturity indices - methods of determining 	The learners demonstrate an understanding of the underlying concepts and principles in carrying out	The learners shall be able to carry out harvest and postharvest operations based on standard procedures	LO 1. Perform preharvest operations 1.1 Identify crop maturity according to parameters affecting physiological growth and physical indicators	TLE_AFAACP9-12CHPO-IIa-i-30

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
<ul style="list-style-type: none"> maturity • Record verification of maturity <ul style="list-style-type: none"> - checking of records of crops to be harvested • Preparations prior to harvesting <ul style="list-style-type: none"> - removal of obstructions - construction of temporary shed - preparation of tools, materials, equipment for harvesting - application of OSHS in removal of obstructions 	harvest and postharvest operations		<ul style="list-style-type: none"> 1.2 Verify records of maturity of agricultural /agronomic crop history 1.3 Perform removal of obstructions from the field for efficient harvesting 1.4 Prepare harvesting tools and materials, and temporary shed 1.5 Check records regarding crops to be harvested 	
<ul style="list-style-type: none"> • Methods of harvesting • Handling of harvests • Phil GAP of harvesting crops 			<p>LO 2. Perform harvesting activity</p> <ul style="list-style-type: none"> 2.1 Implement appropriate harvesting methods based on best cultural practices for each crop using suitable tools 2.2 Properly handle crops according to postharvest treatment 2.3 Harvest crops based on maturity indices and characteristics affecting harvest quality 2.4 Harvest crops while observing Phil GAP principles 	TLE_AFAACP9-12CHPO-IIj-IIIa-i-31
<ul style="list-style-type: none"> • Postharvest operations <ul style="list-style-type: none"> - postharvest procedures - handling and packaging of harvests • Postharvest equipment <ul style="list-style-type: none"> - monitoring of postharvest equipment to avoid damage to 			<p>LO 3. Perform post-harvest operation</p> <ul style="list-style-type: none"> 3.1 Employ postharvest operations based on standard procedures 3.2 Monitor postharvest equipment to avoid damage to crops in line with manufacturer/enterprise procedures 3.3 Handle and package according to variety and destination 	TLE_AFAACP9-12CHPO-IIIj-IVa-h-32

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
harvests - OSHS in monitoring equipment operation • Stacking and storage of Crops			3.4 Store and stack crops in cool dry place prior to distribution in line with enterprise procedures	
• Importance of storage • Factors to consider in storage • Identification of storage pests and diseases • Recording and reporting of identified storage pests and diseases			LO 4. Monitor storage pest and diseases 4.1 Identify pests and diseases based on references for storage 4.2 Record and report identified storage pests and diseases to immediate authority	TLE_AFAACP9-12CHPO-IVi-j-33

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RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	EQUIPMENT	MATERIALS		
<ul style="list-style-type: none"> • Budding knife • Wheelbarrow • Bolo • Basin • Broomstick • Pail • Cutting tools <ul style="list-style-type: none"> ○ Pruning saw ○ Hedge shear ○ Kitchen knife ○ Cutters ○ Pliers ○ Pruning shears ○ Sickles • Digging tools <ul style="list-style-type: none"> ○ Steel bar ○ Pick mattock ○ Hole digger ○ Garden hoe ○ Shovel • Crates • Wooden crates • Plastic crates • Styro crates • Harvesting tools <ul style="list-style-type: none"> ○ Scythe ○ Harvesting pole ○ Ladder ○ Hand trowel • Hard hat • Measuring tools • Weighing scales • Sprinklers • Tool cabinet 	<ul style="list-style-type: none"> • Soil moisture and pH meter • Comb-tooth harrow • Hand tractor • Knapsack sprayer • Hand sprayer • Power sprayer • Grass cutter • Overhead sprinkler • Sprinkler mist • Botton dripper • LCD/overhead projector • Postharvest treatment equipment • Desktop computer/laptop • PPE • Generators • Water pumps • Plow 	<ul style="list-style-type: none"> • Petri dish • Calculator • Puncher • Seedling trays with different holes • Agri bag/plastic • Polyethylene bags of different sizes • Growing media (50 kg) • Rooting hormone • Basket • Fishnet • Strainer • Plastic sheet (10 kilos) • Fertilizer • Flower inducer • Board marker • Whiteboard • Eraser • Pesticides • Rope • Rubber band • Seeds • Seed box • Seedlings /planting materials (assorted) • Detergent soap • Bamboo stick • Bond paper • Clips • First Aid supplies • Permanent pens • Mulching material – 1 roll • String 	<ul style="list-style-type: none"> • Group discussion • Interaction • Symposium • Plant tour • Self-paced/modular • Demonstration • Practical exercise • Lecture/discussion • Videos/Illustrations • Hands-on • Farm visit/tour 	<ul style="list-style-type: none"> • Direct observation and questioning • Demonstration • Oral interview and written test • Third-party report • Direct observation • Practical exercise • Demonstration with oral questioning

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(640 hours)

RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	EQUIPMENT	MATERIALS		
<ul style="list-style-type: none"> • Plow • Scissors • Rake • Soil auger • Wooden crates 		<ul style="list-style-type: none"> • Plastic twine • Brush • Measuring tape • Meter stick • Whetstone (sharpening stone) • Sacks • Containers • Disinfectants • First Aid kit • Chemical spill kit • PPE (Personal Protective Equipment) <ul style="list-style-type: none"> ○ Goggles ○ Disposal gloves ○ Face mask ○ Rubber boots ○ Overall 		

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GLOSSARY

1. Aflatoxin - A toxin produced by some strains of the fungi *Aspergillus Flavus* and *Aspergillus Parasticus*; the most potent carcinogen yet discovered
2. Ambient condition - Ordinary room temperature and relative humidity
3. Ambient air - Surrounding air (atmospheric)
4. Ambient storage - Treatment or practice extending postharvest life of the harvested commodity beyond that of similar commodity held under ambient conditions without treatment
5. Airflow rate - Amount of air passing through an obstruction per unit of time
6. ACIAR - Australian Center for International Agricultural Research
7. AFHB - ASEAN Food Handling Bureau
8. BPI - Bureau of Plant Industry
9. BPRE - Bureau of Post-Harvest Research & Extension
10. Curing - The process of toughening and self-healing of bruises and skinned areas in root and tubes crops or the rapid closing of the neck of bulb crops under favorable conditions
11. Driller - A machine for sowing in furrows
12. Drip irrigation - Application of water through small tubes and orifices or emitters which discharge small quantity of water to the base of the plant
13. Dry-bulb temperature - Temperature of air indicated by a standard temperature
14. Equilibrium moisture content - The moisture content at which moisture in a product is in equilibrium with the surrounding air. The product does not gain or loss moisture.
15. Fogging - To cover or envelope with fog
16. Foliar fertilizer - Fertilizer formulations containing nitrogen, phosphorous, and potassium plus selected micronutrient elements such as (Ca, Mg, Mn, Fe, Zn, Cl, B, Cu, S) applied by spraying on the leaves
17. Fumigant - A chemical compound that acts in the gaseous state to destroy insects and their larvae
18. Fumigation - The process of treating stored products with insecticides/pesticides and the like in fumes or vapor form
19. Furrow irrigation - A method of supplying water through a canal system wherein water flows down or across the slope of the field
20. Furrowing - The final step in land preparation by making furrows or beds for planting
21. GATT - General Agreement on Tariff and Trade
22. Grading - The process of classifying into groups according to a set of recognized criteria of quality and size, each group bearing an accepted name and size grouping
23. Growing medium - Mixture of different materials such as soil, sand, compost, coir dust, rice hull, perlite, peat, etc. for growing seedlings
24. HACCP - Hazard Analysis Critical Control Points
25. Hardening - The process of gradually withholding water and exposing to direct sunlight to prevent seedlings from transplanting stress/shock
26. Harrowing - Breaking of large soil clods that are caused by plowing

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|---------------------------|--|
| 27. Hilling up | - The process of covering the applied fertilizer material by raising the soil toward the base of the plant to further stabilize its stand for better plant growth |
| 28. Hygrometer | - An instrument that measures humidity |
| 29. Insect pest | - A destructive or harmful insect |
| 30. Irrigation | - Method of supplying water to sustain plant growth |
| 31. Off-baring | - The process of cultivating the soil away from the base of the plants |
| 32. Pricking off | - The methods of transferring of seedling to avoid overcrowding |
| 33. Larvae | - The first stage of the life cycle of insects after leaving the egg |
| 34. Manometer | - An instrument that measures air pressure |
| 35. Maturity | - The quality or state of ripeness or of being fully developed grain |
| 36. Maturity index | - The signs or indications that a commodity is mature and is ready to be harvested |
| 37. Moisture content | - The conventional index used to determine whether the seed is dry enough for safe storage or for milling usually expressed in percent (% M.C.) |
| 38. Molds | - A superficial often woolly growth produced in various forms of organic matter, especially when damp or decaying |
| 39. MSDS | - Material Safety Data Sheet |
| 40. NFA | - National Food Authority |
| 41. NSIC | - National Seed Industry Council |
| 42. Packaging | - The technology or process to ensure adequate protection and safe delivery of a product from the producers to the ultimate consumers |
| 43. Packing | - The act of putting commodities in a container |
| 44. Packinghouse | - A place where the preparatory steps for storage or marketing are done |
| 45. Pallet | - A low portable platform made of wood or metal or in combination to facilitate handling, storage or transport of materials as a unit load using forklift |
| 46. Perishables | - Food crops for which value and/or quality is maintained over a short period of time after harvest. These include fruits, vegetables, flowers, young coconut, nursery stocks and some staple root crops, such as sweet potato, cassava, and yam |
| 47. Postharvest disease | - A disease observed after harvest regardless of when or where initial infestation took place |
| 48. Postharvest handling | - A specific term used for the movement of commodities and operations through which a commodity undergoes from harvest to possession of the fixed consumer, includes the technological aspects of marketing and distribution |
| 49. Postharvest infection | - Plant infection that takes place after harvest |
| 50. Postharvest life | - The period of time during which a commodity is still acceptable for its intended purpose |
| 51. Precooling | - The rapid cooling (48 hours or less) of a commodity to a desired transit or storage temperature soon after harvest before it is stored or moved in transit |
| 52. Pupa | - An intermediate stage of an insect that preys on one or more plants and animals |
| 53. Refrigeration | - The process of removing heat from a compartment or substance so that the temperature is lowered and then maintained at a desirable level; usually refers to refrigeration by mechanical means |
| 54. Relative humidity | - Actual vapor pressure of the air relative to saturation |
| 55. Respiration | - A biological process by which organic materials are broken down to simpler forms accompanied by the release of energy and heat |

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|---------------------------|---|
| 56. Ripening | - The state of development of a fruit when it becomes soft and edible; applies strictly to climacteric-type fruit |
| 57. Rodents | - Refers to rats and mice, which destroy grains and other stored products |
| 58. Senescence | - The final phase in the life of an organ in which a series of normally irreversible events are initiated leading to cellular breakdown or death of the organ |
| 59. Side-dress fertilizer | - The additional amount of any fertilizer materials applied at the onset of flowering to complete the nutritional requirement of the crop |
| 60. Sprinkler irrigation | - A mechanical method of supplying water over the standing crop by means of a nozzle, which is rotated by water pressure |
| 61. Synthetic mulch | - Mulching materials made either of polyethylene or non-woven fabric. |
| 62. Sorting | - The process of classifying into groups designated by the person classifying crops or commodities the produce either according to set criteria |
| 63. Standard | - Set of criteria and specifications of quality determining the grades, described as product characteristics such as maturity, color, cleanliness, shape, free from decay and blemishes, and uniformity of size |
| 64. Storage | - The process of keeping horticultural crops in a structure designed to protect the stored products from inclement weather and pests for a short or long period of time to await processing or movement to other location |
| 65. Storage life | - The longest time produce can be kept in a sound marketable condition |
| 66. Tachometer | - An instrument that measures revolutions per minute |
| 67. Tillage | - The mechanical manipulation of the soil |
| 68. Transplants | - Vegetable seedlings produced for transplanting |
| 69. Trellis | - A support structure for viny crops and can either be T, I, Y, or A shaped |
| 70. Velometer | - An instrument that measures the velocity of air flow |
| 71. Waxing | - Application of a thin film of surface coating to fruits and vegetables |
| 72. Wet-bulb temperature | - The temperature of moist air indicated by a thermometer whose bulb is covered with a moist with which the air flow passing over has a velocity of 15 ft. per second |

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CODE BOOK LEGEND

Sample: **TLE_AFAACP9-12ASMO-Ia-b-1**

LEGEND		SAMPLE		DOMAIN / COMPONENT	CODE
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education Agri-Fishery Arts	TLE_ AFA ACP	Common Competencies	
		Agricultural Crops Production NC II		Applying Safety Measures in Farm Operations	ASMO
Uppercase Letter/s	Domain/ Content/ Component/ Topic	Grade 9 to 12	ASMO	Using Farm Tools and Equipment	UFTE
		Applying Safety Measures in Farm operations		Performing Estimation and Basic Calculation	PEBC
			9-12	Processing Farm Wastes	PFW
			-	Performing Record Keeping	PRK
Roman Numeral *Zero if no specific Quarter	Quarter	First Quarter	I	Core Competencies	
Lowercase letter/s *put an en dash (-) between letters to indicate more than a specific week	Week	Week one to two	a-b	Performing Nursery Operations	PNO
					Planting Crops
			-	Caring and Maintaining Crops	CAMC
			1	Carrying Out Harvest and PostHarvest Operations	CHPO
Arabic Number	Learning Competency	Determine areas of concern for safety measures			

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 (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	*Slaughtering Operations (Hog/Swine/Pig) (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	Fish Wharf Operation (NC I)	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.

 Pre-requisites of the subjects to the right should 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.**

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – AGRICULTURAL CROPS PRODUCTION (NC II)
(640 hours)

Reference:

Technical Education and Skills Development Authority-Qualification Standards Office. *Training Regulations for Agricultural Crops Production NC II*. Taguig City, Philippines: TESDA, 2006.