

**K to 12 BASIC EDUCATION CURRICULUM**  
**JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL LIVELIHOOD**  
**AGRI – FISHERY ARTS – AGRI – CROP PRODUCTION**

These are the list of specializations and their pre-requisites.

	<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
1.	Animal Production (NC II)	480 hours	
2.	Aquaculture (NC II)	320 hours	
3.	Artificial Insemination (Ruminants) (NC II)	160 hours	Animal Production
4.	Artificial Insemination (Swine) (NC II)	160 hours	Animal Production
5.	Crop Production (NC I)	320 hours	
6.	Fish Nursery Operation (NC II)	160 hours	
7.	Fish or Shrimp Grow Out Operation (Non NC)	160 hours	Aquaculture
8.	Fish Wharf Operation (NC I)	160 hours	Fish or Shrimp Grow Out Operation
9.	Food (Fish) Processing (NC II)	640 hours	
10.	Horticulture (NC II)	640 hours	
11.	Landscape Installation and Maintenance (NC II)	320 hours	Crop Production
12.	Organic Agriculture (NC II)	320 hours	Crop Production
13.	Pest Management (NC II)	320 hours	Crop Production
14.	Rice Machinery Operation (NC II)	320 hours	Crop Production
15.	Slaughtering Operation (NC II)	160 hours	Animal Production
1.	Beauty/Nail Care (NC II)	160 hours	40 hours of the subject during exploratory Grade 7/8
2.	Attractions and Theme Parks (NC II)	160 hours	
3.	Bread and Pastry Production (NC II)	160 hours	
4.	Caregiving (NC II)	640 hours	40 hours of the subject during exploratory Grade 7/8
5.	Cookery (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
6.	Dressmaking (NC II)	320 hours	
7.	Food and Beverage Services (NC II)	160 hours	
8.	Front Office Services (NC II)	160 hours	40 hours of the subject during exploratory Grade 7/8
9.	Hairdressing (NC II)	320 hours	
10.	Handicraft (Basketry, Macrame) (Non-NC)	160 hours	
11.	Handicraft (Fashion Accessories, Paper Craft) (Non-NC)	160 hours	
12.	Handicraft (Needlecraft) (Non-NC)	160 hours	
13.	Handicraft (Woodcraft, Leathercraft) (Non-NC)	160 hours	
14.	Household Services (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
15.	Housekeeping (NC II)	160 hours	
16.	Tailoring (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
17.	Tour Guiding Services (NC II)	160 hours	
18.	Tourism Promotion Services (NC II)	160 hours	
19.	Travel Services (NC II)	160 hours	
20.	Wellness Massage (NC II)	160 hours	

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		<b>Specialization</b>	<b>Number of Hours</b>	<b>Pre-requisite</b>
1.	<b>ICT</b>	Computer Hardware Servicing (NC II)	320 hours	
2.		Animation (NC II)	320 hours	
3.		Computer Programming (NC IV)	320 hours	
4.		Contact Center Services (NC II)	320 hours	
5.		Illustration (NC II)	320 hours	
6.		Medical Transcription (NC II)	320 hours	
7.		Technical Drafting (NC II)	320 hours	
1.	<b>INDUSTRIAL ARTS</b>	Automotive Servicing (NC I)	640 hours	
2.		Carpentry (NC II)	640 hours	
3.		Consumer Electronics Servicing (NC II)	640 hours	
4.		Electrical Installation and Maintenance (NC II)	640 hours	
5.		Masonry (NC II)	320 hours	
6.		Plumbing (NC I)	320 hours	
7.		Plumbing (NC II)	320 hours	Plumbing (NC I)
8.		Refrigeration and Airconditioning Servicing (NC II)	640 hours	
9.		Shielded Metal Arc Welding (NC I)	320 hours	
10.		Shielded Metal Arc Welding (NC II)	320 hours	Shielded Metal Arc Welding (NC I)
11.		Tile Setting (NC II)	320 hours	

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**AGRI – FISHERY ARTS – AGRI – CROP PRODUCTION**  
**Grade 7/8 (Exploratory)**

**Course Description:**

This Module is an exploratory and introductory course which leads to **Agricultural Crop Production** National Certificate Level II (**NC II**). It covers **four** common competencies that a Grade 7/Grade 8 Technology and Livelihood Education (TLE) student ought to possess: 1) using tools, equipment and paraphernalia; 2) performing mensuration and calculation; 3) practicing **Occupational Health and Safety (OHS)** procedures; and 4) interpreting technical drawing and plans.

The preliminaries of this exploratory course include the following: 1) discussion on the relevance of the course, 2) explanation of key concepts relative to the course, and 3) exploration of career opportunities.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>Introduction</b> 1. Basic concepts in agricultural crop production 2. Relevance of the course 3. Career opportunities	The learner demonstrates an understanding of basic concepts and underlying theories in agricultural crop production.	The learner independently demonstrates common competencies in agricultural crop production as prescribed by TESDA Training Regulations.	1. Explain basic concepts in agricultural crop production 2. Discuss the relevance of the course 3. Explore career opportunities in agricultural crop production	
<b>PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)</b>				
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 learner's PeCS in relation to those of a practicing entrepreneur/employee	The learner demonstrates an understanding of one's Personal Competencies and Skills (PeCS)	The learner recognizes his/her Personal Competencies and Skills (PeCS) and is able to compare these with the PeCS of a practicing entrepreneur/ employee involved in agricultural crop production	<b>LO 1. Recognize Personal Competencies and Skills (PeCS) needed in agricultural crop production</b> 1.1. Identify and assess one's PeCS 1.2. Identify and assess a practitioner's PeCS 1.3. Compare self with a practicing entrepreneur/employee 1.4. Identify areas for improvement, development and growth	<b>TLE_PPCS7/8-00-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>LESSON 1: USE OF FARM TOOLS AND EQUIPMENT AND MAINTENANCE (UT)</b>				
1. Farm tools 2. Defects and remedies 3. Farm tools safety 4. Manual of farm equipment and specification 5. Parts and functions of equipment 6. Pre-operation check-up 7. Safety practice during operation of farm equipment 8. Preventive maintenance 9. Regular maintenance of equipment	The learner demonstrates an understanding of concepts, underlying theories and principles in the use of farm tools and equipment.	The learner uses farm tools and equipment in agricultural crop production.	<b>LO 1. Select and use farm tools</b> 1.1. Identify farm tools according to use 1.2. Check farm tools for faults 1.3. Use appropriate tools for the job requirement according to manufacturer's specifications and instructions	<b>TLE_AFAC7/8UT-0a-1</b>
			<b>LO 2. Select farm equipment</b> 2.1. Identify appropriate farm equipment 2.2. Follow the guidelines in the instructional manual of farm equipment 2.3. Conduct pre-operation check-up in line with the manufacturer's manual 2.4. Identify faults in farm equipment and facilities 2.5. Use farm equipment according to their function	<b>TLE_AFAC7/8UT-0b-2</b>
			<b>LO 3. Perform preventive maintenance</b> 3.1. Clean tools and equipment after use in line with farm procedures 3.2. Perform routine check-up and maintenance 3.3. Follow procedures in sharpening and oiling farm tools and equipment	<b>TLE_AFAC7/8MT-0c-3</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>LESSON 2: PERFORM ESTIMATION AND BASIC CALCULATION (MC)</b>				
1. Farm inputs 2. Labor requirement 3. Estimating farm inputs and labor requirements 4. Perform calculation 5. System of measurement 6. Units of measurement 7. Conversion of units 8. Fraction and decimals 9. Percentage and ratio	The learner demonstrates an understanding of estimation and basic calculation.	The learner accurately performs estimation and basic calculation.	<b>LO 1. Perform estimation</b> 1.1. Identify job requirement from written and oral communications 1.2. Estimate the quantity of materials and resources required to complete a work/ task 1.3. Estimate time needed to complete a work/activity 1.4. Calculate the duration of work completion 1.5. Follow procedures in reporting to appropriate persons the estimate of materials and resources	<b>TLE_AFAC7/8MC-0d-4</b>
			<b>LO 2. Perform basic workplace calculation</b> 2.1. Identify calculations to be done according to the job requirement 2.2. Determine correct methods of calculation 2.3. Ascertain systems and units of measurement to be followed 2.4. Perform calculations needed to complete a task using the four basic mathematical operations 2.5. Employ different techniques in checking accuracy of result 2.6. Use appropriate operations to comply with the job requirement	<b>TLE_AFAC7/8MC-0e-5</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>LESSON 3: INTERPRET PLANS AND DRAWINGS (ID)</b>				
<ol style="list-style-type: none"> <li>1. Farm plans and layout</li> <li>2. Planting system</li> <li>3. Farm layout</li> <li>4. Government plans</li> <li>5. Crops arrangement</li> <li>6. Layout plan of irrigation system</li> <li>7. Types of irrigation systems</li> <li>8. Essential features of a plan</li> <li>9. Different designs of irrigation system</li> </ol>	The learner demonstrates an understanding of interpreting plans and drawings.	The learner interprets plans and drawings relative to agricultural crop production.	<b>LO 1. Layout garden plots</b> <ol style="list-style-type: none"> <li>1.1. Design farm plans and layouts according to crop grown</li> <li>1.2. Follow strictly planting system and practices according to approved cultural practices</li> <li>1.3. Interpret irrigation system plan according to established procedures</li> <li>1.4. Differentiate designs of irrigation systems</li> </ol>	<b>TLE_AFAC7/8ID-0f-g-6</b>
<b>LESSON 4: APPLY SAFETY MEASURES IN FARM OPERATIONS (OS)</b>				
<ol style="list-style-type: none"> <li>1. Applying safety measures</li> <li>2. Hazards, risks and exposure in the farm</li> <li>3. Chemicals</li> <li>4. Personal protective equipment (PPE)</li> <li>5. Basic first aid</li> <li>6. Farm emergency</li> <li>7. Cleaning, storing and waste management</li> <li>8. Procedure and technique in storing materials and chemicals</li> <li>9. Government requirement regarding farm waste disposal</li> <li>10. Water management system</li> </ol>	The learner demonstrates an understanding of applying safety measures in the farm.	The learner consistently applies safety measures in the farm.	<b>LO 1. Apply appropriate safety measures while working in farm</b> <ol style="list-style-type: none"> <li>1.1. Apply safety measures based on work requirement and farm procedures</li> <li>1.2. Utilize tools and materials in accordance with farm requirements</li> <li>1.3. Explain the importance of wearing work outfit in accordance with farm requirements</li> <li>1.4. Check shelf life and/or expiration of materials and supplies against manufacturer's specifications</li> <li>1.5. Identify risks and hazards in the workplace and report them in accordance with farm guidelines</li> </ol>	<b>TLE_AFAC7/8OS-0h-i-7</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			<p><b>LO 2. Safely keep/dispose tools, materials and outfit</b></p> <p>2.1. Observe procedures in cleaning used outfits in line with farm procedure before storing</p> <p>2.2. Follow the guidelines in labeling unused materials to be stored according to manufacturer’s recommendation and farm requirements.</p> <p>2.3. Dispose waste materials according to manufacturer’s, government and farm requirements</p>	<p><b>TLE_AFAC7/8OS-0j-8</b></p>

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**AGRI – FISHERY ARTS – AGRI – CROP PRODUCTION**  
(160 hours)

**Course Description:**

This module covers the skills and knowledge required to support **horticultural** and **nursery** production under supervision. It requires the ability to prepare materials, tools and equipment for horticultural production and nursery work practices; ensure hygiene and quality control; undertake routine production assistance work; handle materials and equipment; and perform thorough cleanups upon completion of the work. Supporting horticultural and nursery production work requires knowledge of safe work practices relating to (1) basic crop and nursery plant maintenance activities (2) basic stock control procedures (3) **propagation** and **handling** techniques—including planting, maintaining, picking and packing, loading and unloading, and (4) using associated farm tools and equipment.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>Introduction</b> 1. Support agricultural crop work 2. Support nursery work 3. Career opportunities	The learner demonstrates an understanding of concepts, principles, underlying theories, and actual application in crop production and nursery work.	The learner independently demonstrates common competencies in crop production and nursery work as prescribed by TESDA Training Regulations.	1. Explain the cultural methods and practices in crop production 2. Formulate adaptive cultural practices in the care and maintenance of a school nursery 3. Explore career opportunities in agricultural crop production	
<b>PERSONAL ENTREPRENEURIAL COMPETENCIES (PeCS)</b>				
1. Assessment of Personal Competencies and Skills (PeCS) vis-à-vis PeCS of a practicing entrepreneur/employee in the town. 1.1. Characteristics 1.2. Attributes 1.3. Lifestyle 1.4. Skills 1.5. Traits 2. Analysis of PeCS in relation to those of a practicing entrepreneur/employee 3. Align, strengthen and develop ones PeCS based on the results	The learner demonstrates an understanding of one's Personal Competencies and Skills (PeCS) and what it takes to become successful in the field.	The learner recognizes his/her Personal Competencies and Skills (PeCS) and is able to compare these with the PeCS of a practicing entrepreneur/ employee involved in the Agricultural Crop Production.	<b>LO 1. Develop and strengthen Personal Competencies and Skills (PeCS) needed in agricultural crop production</b> 1.1. Identify and assess one's PeCS: characteristics, attributes, lifestyle, skills, traits 1.2. Identify successful entrepreneurs/ employees in the town 1.3. Identify and assess a practitioner's PeCS: characteristics, attributes, lifestyle, skills, traits 1.4. Compare self with a practitioner. 1.5. Identify areas for improvement, development and growth 1.6. Align, strengthen, develop areas based on the results of the PeCS Assessment	<b>TLE_PECS9-12-00-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>ENVIRONMENT AND MARKET (EM)</b>				
<b>THE MARKET (The Town)</b> 1. Key concepts of the Market 2. Players in the Market (Competitors) 3. Products and services available in the market	The learner demonstrates an understanding of the market of agricultural crop production from the context of the town.	The learner independently identifies the products/services available and the competitors within the agricultural crop production market from the context of the town.	<b>LO 1. Recognize and understand the market for agricultural crop production</b> 1.1. Identify the players/ competitors within the town 1.2. Identify the different products/services available in the market 1.3. Enumerate the differences between these products/ services	<b>TLE_EM9-12IO-1</b>
<b>THE MARKET – CUSTOMER</b> 1. Key concepts in identifying and understanding the Consumer 2. Consumer analysis through: 2.1. observation 2.2. interviews 2.3. FGDs (Focused Group Discussions) 2.4. Surveys	The learner demonstrates an understanding of the customers of agricultural crop production.	The learner independently identifies the customers in the agricultural crop production market.	<b>LO 2. Recognize the customers of the agricultural crop production market</b> 2.1. Identify the different customers of the market 2.2. Identify the customer’s needs and wants through consumer analysis 2.3. Conduct observation exercises, interviews, FGDs and surveys	<b>TLE_EM9-12II0-2</b>
<b>THE MARKET - GENERATING BUSINESS IDEAS</b> 1. Key concepts in generating business ideas 2. Knowledge, skills, passions, and interests 3. New applications 4. Irritants	The learner demonstrates an understanding of the techniques of generating business ideas.	The learner independently generates business ideas using the various techniques available.	<b>LO 3. Create new business ideas using the various techniques and based on the analyses of the market for Agricultural Crop Production.</b> 3.1. Generate business ideas using knowledge, skills, passions, and interests 3.2. Generate business ideas using new applications (finding new use for existing products/materials) 3.3. Generate business ideas from	<b>TLE_EM9-12III0-3</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			one's Irritants	
<b>THE MARKET - GENERATING BUSINESS IDEAS</b> 1. Key concepts in generating business Ideas 2. Striking ideas (new concepts) 3. Serendipity Walk	The learner demonstrates an understanding of the techniques of generating business ideas.	The learner independently generates business ideas using the various techniques available.	<b>LO 4. Create new business ideas using the various techniques based on the analyses of the market for Agricultural Crop Production</b> 4.1. Generate business ideas based on striking Ideas 4.2. Generate business ideas using the Serendipity Walk	<b>TLE_EM9-12IV0-4</b>
<b>QUARTER 1 and 2</b> <b>LESSON 1. SUPPORT HORTICULTURAL WORK (HC)</b> <i>(Note: Research component should be included in the activities)</i>				
1. Types and selection of materials, tools, and equipment 2. Routine check-up of tools and equipment 3. Manual handling procedures and techniques 4. Personal protective equipment and occupational health and safety requirements 5. Common OHS hazards, risks and its control	The learner demonstrates an understanding of concepts, underlying theories and principles in the preparation of farm materials, tools and equipment and occasional health and safety operations in crop production.	The learner uses farm materials, tools, and equipment and applies occupational health and safety practices in crop production.	<b>LO 1. Prepare materials, tools and equipment for horticultural production work</b> 1.1. Identify the required materials, tools and equipment according to lists provided and/or teacher's/supervisor's instructions 1.2. Check farm tools, materials and equipment for faults and defects based on manufacturer's lists and pre-operating procedures 1.3. Demonstrate the correct manual handling procedures and techniques when loading and unloading materials to minimize damage to the load and vehicle 1.4. Select and check the suitable personal protective equipment (PPE), as required by the job 1.5. Provide the work support in accordance with OHS requirements and the workplace information	<b>TLE_AFAC9-12HC-Ia-e-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			1.6. Identify OHS hazards and file a report based on OHS requirements and company reporting procedures	
1. Common horticultural production work 2. Safe work practices 3. Proper use of horticultural tools and equipment 4. Procedures for land preparation, sowing/planting, crop maintenance, fertilization, loading and unloading, harvesting/picking, sorting and packing 5. Planting, picking, packing, loading and transporting techniques 6. Environmental aspects of horticultural production work 7. Interpersonal relationships and communication (oral and written)			<b>LO 2. Undertake horticultural production work as directed</b> 2.1. Follow and clarify instructions and directions based on authority requirements and workplace procedures 2.2. Undertake work in a safe and environmentally-sound manner according to enterprise guidelines 2.3. Interact with other staff and customers in a positive and professional manner as specified in the employee manual 2.4. Observe workplace practices, handling and disposal of materials following enterprise policy and procedures 2.5. Report problems or difficulties in completing work to required standards or timelines to authority based on company reporting procedures	<b>TLE_AFAC9-12HC-If-j-2</b>
1. Proper use/handling of materials and equipment 2. Storage practices and principles for materials and equipment 3. Waste materials management 4. Occupational health and safety procedures			<b>LO 3. Handle materials and equipment</b> 3.1. Store waste material in a designated area according to workplace procedure/OHS procedure 3.2. Handle and transport materials, equipment and machinery according to enterprise	<b>TLE_AFAC9-12HC-IIa-e-3</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
5. Routine maintenance of workplace			guidelines 3.3. Maintain a clean and safe work site while working in accordance with OHS procedures	
1. Procedures for storage of excess materials 2. Procedures for disposal of waste materials 3. Routine cleaning, maintenance and storage of tools and equipment 4. Report preparation of work outcomes			<b>LO 4. Cleanup on completion of work</b> 4.1. Return materials to store or dispose of according to company standard procedures 4.2. Clean, maintain and store tools and equipment according to manufacturers' specifications 4.3. Report work outcomes to the authority following established reporting formats	<b>TLE_AFAC9-12HC-IIIf-j-4</b>
<b>Quarter 3 and 4</b>				
<b>LESSON 2: SUPPORT NURSERY WORK (NW)</b> <i>(Note: Research component should be included in the activities)</i>				
1. Types and selection of materials, tools, and equipment appropriate to nursery work 2. Routine check-up of tools and equipment 3. Manual handling procedures and techniques 4. Personal protective equipment and occupational health and safety requirements 5. Common OHS hazards and its control	The learner demonstrates an understanding of concepts, underlying theories and principles in nursery work.	The learner uses farm materials, tools and equipment for nursery work.	<b>LO 1. Prepare materials, tools and equipment for nursery work</b> 1.1. Identify the required materials, tools and equipment based on lists provided and/or authority's instructions 1.2. Check the materials, tools and equipment based on manufacturer's lists and pre-operating procedures and report those with insufficient or faulty items to the authority 1.3. Demonstrate correct manual handling procedures and techniques when loading and unloading materials to minimize damage to the load and vehicle	<b>TLE_AFAC9-12NW-IIIa-e-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			1.4. Select and check the suitable personal protective equipment (PPE), as required by the job 1.5. Provide nursery support according to OHS requirements and workplace information 1.6. Identify and report OHS hazards to the authority based on OHS requirements and company reporting procedures	
1. Common nursery work 2. Safe work practices 3. Proper use of nursery tools and equipment 4. Nursery hygiene and quality control 5. Nursery plant maintenance activities 6. Propagation techniques 7. Environmental aspects of nursery work 8. OHS legislative requirements and codes of practice 9. Interpersonal relationships and communication (oral and written)			<b>LO 2. Undertake nursery work as directed</b> 2.1. Follow and clarify instructions and directions based on authority requirements and workplace procedures 2.2. Undertake nursery work in a safe, appropriate and environmentally-sound manner according to nursery guidelines 2.3. Interact with other staff and customers in a positive and professional manner as specified in the employee manual 2.4. Observe good workplace practice in handling and disposing of materials following nursery policy, procedures and OHS requirements 2.5. Report problems or difficulties in completing work to required standards or timelines to authority, based on company reporting procedures	<b>TLE_AFAC9-12NW-IIIIf-j-2</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ol style="list-style-type: none"> <li>1. Basic stock control procedures</li> <li>2. Recycling/composting practices and procedures</li> <li>3. Proper stockpiling of surplus materials</li> <li>4. Storage practices and principles for materials</li> <li>5. Waste materials management</li> <li>6. Routine maintenance of workplace</li> </ol>			<p><b>LO 3. Store and stockpile materials</b></p> <ol style="list-style-type: none"> <li>3.1. Store plant debris and waste material produced during nursery activities according to nursery /OHS procedure</li> <li>3.2. Prepare and process plant debris and waste materials in an appropriate and safe manner according to accepted recycling/composting practices and procedures</li> <li>3.3. Stockpile all surplus materials according to company disposition guidelines</li> <li>3.4. Maintain a clean and safe work site while completing nursery activities following routine maintenance procedures</li> </ol>	<p><b>TLE_AFAC9-12NW-IVa-e-3</b></p>
<ol style="list-style-type: none"> <li>1. OHS Requirements</li> <li>2. Procedures for storage of plants and materials</li> <li>3. Routine cleaning, maintenance and storage of tools and equipment</li> <li>4. Report preparation of work outcomes</li> </ol>			<p><b>LO 4. Cleanup on completion of nursery work</b></p> <ol style="list-style-type: none"> <li>4.1. Store plants and materials according to company storage guidelines and OHS requirements</li> <li>4.2. Clean, maintain and store tools and equipment according to manufacturers' specifications</li> <li>4.3. Report work outcome to the supervisor following established reporting formats</li> </ol>	<p><b>TLE_AFAC9-12NW-IVf-j-4</b></p>

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(160 hours)

**Course Description:**

This module covers the skills and knowledge required to support agronomic cropping work under supervision. It requires the ability to prepare materials, tools and equipment for cropping work; undertake cropping activities; and handle materials and equipment. Supporting agronomic cropping work requires knowledge of safe work practices, cropping practices and related tools and equipment.

This also covers the skills and knowledge required to support the installation, operation and maintenance of watering and drainage systems under direct supervision. It requires the ability to prepare materials, tools and equipment for irrigation work, undertake irrigation activities, handle materials and equipment, and perform thorough cleanups upon completion of the work. Supporting irrigation work requires knowledge of safe work practices, irrigation work techniques, irrigation tools and equipment, and repair and maintenance of irrigation components and systems.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>Introduction</b> 1. Support agronomic crop work 2. Support irrigation work 3. Career opportunities	The learner demonstrates an understanding of concepts and principles, underlying theories, and actual application in agronomic crop production and irrigation work.	The learner independently demonstrates common competencies in agronomic crop production and irrigation work as prescribed by TESDA Training Regulations.	1. Explain the cultural methods and practices in agronomic crop production 2. Discuss the relevance of the course 3. Explore career opportunities in the field after taking the course	
<b>PERSONAL ENTREPRENEURIAL COMPETENCIES (PeCS)</b>				
1. Assessment of Personal Competencies and Skills (PeCS) vis-à-vis PeCS of a practicing entrepreneur/employee in the province. 1.1. Characteristics 1.2. Attributes 1.3. Lifestyle 1.4. Skills 1.5. Traits 2. Analysis of PeCS in relation to a practitioner 3. Align, strengthen and develop one's PeCS based on the results	The learner demonstrates an understanding of one's Personal Competencies and Skills (PeCS) and what it takes to become successful in the field.	The learner recognizes his/her Personal Competencies and Skills (PeCS) and is able to compare these with the PeCS of a practicing entrepreneur/ employee involved in agricultural crop production.	<b>LO 1. Develop and strengthen Personal Competencies and Skills (PeCS) needed in agricultural crop production</b> 1.1. Identify and assess one's PeCS: Characteristics, Attributes, Lifestyle, Skills, Traits 1.2. Identify successful entrepreneurs/ employees in the province 1.3. Identify and assess a practitioner's PeCS: Characteristics, Attributes, Lifestyle, Skills, Traits 1.4. Compare self with a practitioner 1.5. Identify areas for improvement, development and growth	<b>TLE_PECS9-12-00-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			1.6. Align, strengthen, develop areas based on the results of the PeCS assessment	
<b>ENVIRONMENT AND MARKET (EM)</b>				
<b>THE MARKET (The Province)</b> 1. Key concepts of the Market 2. Players in the Market (Competitors) 3. Products and services available in the market	The learner demonstrates an understanding of the market of agricultural crop production from the context of the province.	The learner independently identifies the products/services available and the competitors within the agricultural crop production market from the context of the province.	<b>LO 1. Recognize and understand the market for agricultural crop production</b> 1.1. Identify the players/ competitors within the province 1.2. Identify the different products/services available in the market 1.3. Enumerate the differences between these products/ services	<b>TLE_EM9-12-IO-1</b>
<b>THE MARKET – PRODUCT DEVELOPMENT</b> 1. Key concepts of developing a product 2. Finding Value 3. Innovation 4. Unique Selling Proposition (USP)	The learner demonstrates an understanding of developing a product in agricultural crop production	The learner independently identifies the customers in the agricultural crop production market.	<b>LO 2. Develop a product for the agricultural crop production market</b> 2.1. Identify what is of “value” to the customer 2.2. Identify the Customer 2.3. Define and identify what makes a product different 2.4. Enumerate and apply creativity and innovation techniques in order to develop a product that stands out 2.5. Identify the Unique Selling Proposition (USP) of the product	<b>TLE_EM9-12-II0-2</b>
<b>THE MARKET - SELECTING BUSINESS IDEA</b> 1. Key concepts in Selecting a Business Idea 2. Criteria 3. Techniques	The learner demonstrates an understanding of the techniques of selecting business ideas.	The learner independently selects a viable business idea.	<b>LO 3. Select a business idea based on the criteria and techniques provided for the agricultural crop production market</b> 3.1. Identify potential business ideas to select from 3.2. Enumerate the various criteria	<b>TLE_EM9-12-III0-3</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			and steps to selecting a business idea 3.3. Apply the criteria/steps in order to select a viable business idea 3.4. Identify a business idea based on the criteria/steps provided.	
<b>THE MARKET - BRANDING</b> 1. Key concepts of Branding	The learner demonstrates an understanding of branding and develops a brand for their business idea.	The learner independently generates a brand for their business idea.	<b>LO 4. Develop a brand for the product</b> 4.1. Identify the benefits of having a good brand 4.2. Enumerate recognizable brands in the town/province 4.3. Enumerate the criteria for developing a brand 4.4. Generate a brand that is clear and follows the techniques of generating a brand	<b>TLE_EM9-12-IV0-4</b>
<b>QUARTER 1 and 2</b> <b>LESSON 1: SUPPORT CROP WORK</b> <i>(Note: Research component should be included in the activities)</i>				
1. Types and selection of materials, tools, and equipment appropriate to agronomic production 2. Routine check-up of tools and equipment 3. Manual handling procedures and techniques 4. Personal protective equipment and occupational health and safety requirements 5. Common OHS hazards and its control	The learner demonstrates an understanding of concepts, underlying theories and principles in the preparation of materials, tools and equipment in agronomic crop production.	The learner prepares farm tools and equipment for agronomic crop production based on required task.	<b>LO 1. Prepare materials, tools and equipment for agronomic crop work</b> 1.1. Identify the required materials, tools and equipment according to lists provided and/or authority instructions. 1.2. Check materials, tools and equipment for sufficient quantity, faults/defects based on manufacturer’s lists and pre-operating procedures 1.3. Demonstrate correct manual handling procedures and techniques when loading and	<b>TLE_AFAC9-12CW-Ia-e-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			unloading materials to minimize damage to the load to the materials, tools and equipment 1.4. Select and check suitable personal protective equipment (PPE) prior to use according to job requirements 1.5. Provide cropping support according to OHS requirements and workplace information 1.6. Identify OHS hazards and report to the teacher/ supervisor based on OHS requirements and company reporting procedures	
1. Common agronomic crop work 2. Safe work practices in agronomic operation 3. Proper use of farm tools and equipment 4. Cropping practices 5. Procedures for land preparation, seeding, crop maintenance, fertilization, loading and unloading, harvesting/picking, baling, raking, sorting and packing of agronomic crops 6. Planting, picking, packing, loading and transporting techniques for agronomic crops 7. Environmental aspects of agronomic crop work			<b>LO 2. Undertake agronomic crop work as directed</b> 2.1. Follow and clarify instructions and directions based on supervisor’s requirements and workplace procedures 2.2. Undertake cropping work in a safe and environmentally-responsible manner according to enterprise guidelines 2.3. Interact with other staff and customers in a positive and professional manner as specified in the employee manual 2.4. Observe good workplace practice in handling and disposing of materials following enterprise policy and procedures 2.5. Report problems or difficulties in completing work to required	<b>TLE_AFAC9-12CW-If-j-2</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
8. Interpersonal relationships and communication (oral and written)			standards or timelines to authority, based on company reporting procedures	
1. Proper use/handling of materials and equipment 2. Storage practices and principles for materials and equipment 3. Waste materials management 4. Routine maintenance of sheds and other workplaces 5. Repair and maintenance of structures 6. Occupational health and safety procedures			<b>LO 3. Handle materials and equipment</b> 3.1. Store/dispose of waste material and debris in a designated area according to workplace procedure/OHS procedure 3.2. Handle and transport materials, equipment and machinery according to enterprise guidelines 3.3. Maintain a clean and safe work site while undertaking irrigation activities in accordance with OHS procedures	<b>TLE_AFAC9-12CW-IIa-e-3</b>
1. Procedures for storage of excess materials 2. Procedures for disposal of waste materials 3. Routine cleaning, maintenance and storage of tools and equipment 4. Report preparation of work outcomes			<b>LO 4. Cleanup on completion of cropping work</b> 4.1. Return, storage cabin or dispose of materials according to company standard procedures 4.2. Clean, maintain and store tools and equipment according to manufacturers' specifications 4.3. Report work outcomes to the authority following established reporting formats	<b>TLE_AFAC9-12CW-IIIf-j-4</b>
<b>QUARTER 3 and 4</b>				
<b>LESSON 2: SUPPORT IRRIGATION WORKS (IW)</b> <i>(Note: Research component should be included in the activities)</i>				
1. Types and selection of materials, tools, and equipment 2. Routine check-up of tools and equipment	The learner demonstrates an understanding of safety precautions in preparation of materials and handling of irrigation work.	The learner practices safety precautions in preparation of materials and handling of irrigation work for agronomic crop production as stipulated in the manual.	<b>LO 1. Prepare materials, tools and equipment for irrigation work.</b> 1.1. Identify required materials, tools and equipment according	<b>TLE_AFAC9-12IW-IIIf-a-e-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
3. Different irrigation systems and components 4. Personal protective equipment and occupational health and safety requirements 5. OHS hazards/ general OH & S principles and legislation 6. Accident/hazard reporting procedures			to lists provided and/or authority's instructions 1.2. Check materials, tools and equipment for insufficient quantity or faults/defects and report to the authority based on manufacturer's lists and pre-operating procedures 1.3. Demonstrate correct manual handling and techniques used when loading and unloading materials to minimize damage to the materials, tools and equipment 1.4. Follow material and equipment handling procedures 1.5. Select and check suitable personal protective equipment (PPE) prior to use and according to job requirements 1.6. Provide irrigation support according to OHS requirements and according to workplace information 1.7. Identify and report to the supervisor the OHS hazards based on OHS requirements and company reporting procedures	
1. Safe work practices 2. Basic irrigation principles and practices 3. Basic construction techniques 4. Irrigation tools and equipment 5. Installation of irrigation			<b>LO 2. Undertake irrigation work as directed</b> 2.1. Follow and clarify instructions and directions based on authority's requirements and workplace procedures 2.2. Undertake irrigation work in a safe and environmentally	<b>TLE_AFAC9-12IW-IIIIf-j-2</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
and/or drainage pipes 6. Environmental aspects of irrigation work 7. Repair and maintenance of irrigation components and systems 8. Interpersonal relationships and communication (oral and written)			appropriate manner according to enterprise guidelines 2.3. Carry out in a positive and professional manner the interactions with other staff and customers as specified in the employee manual 2.4. Observe handling and disposal practices of materials for irrigation work, following engineering and enterprise policy and procedures 2.5. Report problems or difficulties in completing work to required standards or timelines to authority based on company reporting procedures	
1. Proper use/handling of materials and equipment 2. Storage practices for materials and equipment 3. Waste materials storage and disposition 4. Routine maintenance of irrigation and/or drainage systems and components 5. Repair, maintenance, and storage of infrastructures, materials, tools and equipment			<b>LO 3. Handle materials and equipment</b> 3.1. Store waste material and debris in the designated area according to workplace procedure/OHS procedure 3.2. Handle and transport materials, equipment and machinery according to enterprise guidelines 3.3. Maintain a clean and safe work site while undertaking irrigation activities in accordance with OHS procedures	<b>TLE_AFAC9-12IW-IVa-e-3</b>
1. Procedures for storage of excess materials 2. Procedures for disposal of waste materials 3. Routine cleaning,			<b>LO 4. Cleanup on completion of irrigation activities</b> 4.1. Return to storage cabin or dispose the materials according to company standard	<b>TLE_AFAC9-12IW-IVf-j-4</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
maintenance and storage of tools and equipment 4. Environmental requirements relative to irrigation 5. Report preparation of work outcomes 6. Accident/hazard reporting procedures			procedures and supervisor’s instructions 4.2. Clean, maintain and store the tools and equipment according to manufacturers’ specifications and supervisors’ instructions 4.3. Make the site clean according to authorities' instructions and good environmental practices 4.4. Report work outcomes to the authority following established reporting formats	

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 CODE BOOK LEGEND**

**Sample: TLE\_AFAC9-12HC-IIa-e-3**

LEGEND		SAMPLE	
<b>First Entry</b>	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_Agri-Fishery Agri-Crop Production	<b>TLE_AFAC9-12HC</b>
	Grade Level	Grade 9/10/11/12	
<b>Uppercase Letter/s</b>	Domain/Content/Component/ Topic	Support Horticultural Crop Work	<b>HC</b>
			-
<b>Roman Numeral</b> <i>*Zero if no specific quarter</i>	Quarter	Second Quarter	<b>II</b>
<b>Lowercase Letter/s</b> <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Week one to five	<b>a-e</b>
			-
<b>Arabic Number</b>	Competency	Store waste material in a designated area according to workplace procedure/OHS procedure	<b>3</b>

DOMAIN/ COMPONENT	CODE
Personal Entrepreneurial Skills	PECS
Environment and Marketing	EM
Use and Maintain Farm Tools and Equipment	UT
Perform Estimation and Basic Calculation	MC
Interpret Plans and Drawings	ID
Apply Safety Measures in Farm Operations	OS
Support Horticultural Crop Work	HC
Support Nursery Work	NW
Support Crop Work	CW
Support Irrigation Works	IW

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**

No.	Grade 7/8 (Exploratory)	Grade 9	Grade 10	Grade 11	Grade 12	
1	<b>EXPLORATORY</b>	<b>Crop Production (NC I)</b>  <b>4 semesters</b>		<b>*Landscape Installation and Maintenance (NC II)</b>		
2				<b>4 semesters</b>		
3				<b>*Pest Management (NC II)</b>		
4				<b>4 semesters</b>		
5				<b>*Rice Machinery Operation (NC II)</b>		
6		<b>4 semesters</b>				
7		<b>Animal Production (NC II)</b>  <b>6 semesters</b>		<b>*Artificial Insemination: Swine (NC II)</b>		
8				<b>2 sems</b>		
9				<b>*Artificial Insemination: Ruminants (NC II)</b>		
10		<b>2 sems</b>		<b>*Slaughtering Operation (NC II)</b>		
11		<b>2 sems</b>		<b>8 semesters</b>		
12		<b>Horticulture (NC II)</b>		<b>8 semesters</b>		
13		<b>Food (Fish) Processing (NC II)</b>		<b>8 semesters</b>		
14	<b>Aquaculture (NC II)</b>  <b>4 semesters</b>		<b>Fish Nursery Operation (NC II)</b>  <b>2 sems</b>		<b>*Fish or Shrimp Grow Out Operation (Non NC)</b>	
15					<b>2 sems</b>	
16	<b>Aquaculture (NC II)</b>  <b>4 semesters</b>		<b>Fish Nursery Operation (NC II)</b>  <b>2 sems</b>		<b>*Fish Wharf Operation (NC I)</b>	
17					<b>2 sems</b>	

\*Please note that these subjects have prerequisites mentioned in the CG.