

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

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

AGRI-FISHERY ARTS

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

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HOME ECONOMICS

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

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AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
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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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AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) 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)

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
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Course Description:

This course on Animal Production (Ruminants) leads to National Certificate Level II (NC II). It is designed for high school students to enhance their knowledge, skills, and attitudes in accordance with industry standards. It covers **common competencies** include (1) application of safety measures in farm operations, (2) use of farm tools and equipment, (3) performance of estimations and calculations, and (4) processing farm waste. The **core competencies** include skills such as: (1) maintenance of housing, farm implements, and surrounding areas; (2) provision of forage; (3) breeding of ruminants; (4) raising dairy animals; and (5) raising meat-type animals.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<p>Introduction</p> <ol style="list-style-type: none"> 1. Basic concepts in animal production 2. Relevance of the course 3. Career opportunities 	The learners demonstrate an understanding of basic concepts and underlying theories in animal production	The learners shall be able to demonstrate competencies in animal production as based on TESDA Training Regulations	<p>The learners...</p> <ol style="list-style-type: none"> 1. Explain basic concepts in animal production 2. Discuss the relevance of the course 3. Explore career opportunities in animal production 	
PERSONAL ENTREPRENEURIAL COMPETENCIES (PECS)				
<ol style="list-style-type: none"> 1. Assessment of Personal Competencies and Skills (PECs) vis-à-vis PECs of a practicing entrepreneur/employee <ol style="list-style-type: none"> 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 animal production	The learners shall be able to prepare an activity plan that aligns with the PECS of a practitioner/entrepreneur in animal production	<p>LO 1. Recognize Personal Entrepreneurial Competencies and Skills (PECs) needed in animal production</p> <ol style="list-style-type: none"> 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

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
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(320 hours)

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1. Strengthening and developing further one's PECs	The learners demonstrate an understanding of one's PECs in animal production	The learners shall be able to create a plan of action that strengthens/develops one's PECs in animal production	LO 2. Develop and strengthen personal competencies and skills (PECs) needed in animal 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 animal production, particularly in one's town/ municipality	The learners shall be able to create a business vicinity map reflective of the potential animal production market in the locality/town	LO 1. Recognize and understand the market in animal 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) 3. Survey			LO 2. Recognize the potential customer/ market in animal 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 animal 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 	<p>TLE_EM7-12-00-3</p>
<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 automotive servicing, particularly in one’s town/municipality</p>	<p>The learners shall be able to create a business vicinity map reflective of the potential animal production market within the locality/town</p>	<p>LO 4. Develop a product/service in animal 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 	<p>TLE_EM7-12-00-4</p>
<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 	<p>TLE_EM7-12-00-5</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
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 (ASMFO)				
<ul style="list-style-type: none"> • Work tasks in farm operations • Places for safety measures • Time for safety measures • Preparation of tools and outfits <ul style="list-style-type: none"> - PPE - Checkup and repair prior to use 	The learners demonstrate an understanding of the concepts, underlying theories, and principles in applying safety measures in animal production	The learners shall be able to apply safety measures in farm operation animal production	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 requirement	TLE_AFAAPR 9-12ASMFO-Ia-b-1
<ul style="list-style-type: none"> • Safety precautions in using tools and materials • Wearing PPE • Farm emergency procedures • Hazards identification and reporting • Compliance with health program of DOH and 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 effectively /shelf life/expiration of materials strictly 2.4 Follow emergency procedures to ensure a safe work requirement. 2.5 Identify and report hazards in the workplace in line with farm guidelines.	TLE_AFAAPR 9-12ASMFO-Ic-d-2

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
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<ul style="list-style-type: none"> • Procedure in cleaning and storing tools and outfits • Proper handling of unused materials and chemicals <ul style="list-style-type: none"> - Labeling - Storing • Farm waste disposal <ul style="list-style-type: none"> - Waste management system - DENR regulations 			<p>LO 3. Safe keep/dispose of tools, materials, and outfit</p> <p>3.1 Clean and store used tools and outfit after use in designated areas</p> <p>3.2 Label and store unused materials according to manufacturer’s recommendation and farm requirements</p> <p>3.3 Dispose of waste materials according to manufacturer’s, government, and farm requirements</p>	<p>TLE_AFAAPR 9-12ASMFO-Ie-f-3</p>
LESSON 2: USING FARM TOOLS AND EQUIPMENT (UFTE)				
<ul style="list-style-type: none"> • Pre-operational checkup of tools identification and reporting of defective tools • Safety practices in using tools 	<p>The learners demonstrate an understanding of the underlying theories in using farm tools and equipment</p>	<p>The learners shall be able to use farm tools and equipment accordingly</p>	<p>LO 1. Select and use farm tools</p> <p>1.1 Identify appropriate farm tools according to requirement/use</p> <p>1.2 Check farm tools for faults</p> <p>1.3 Report defective farm tools in accordance with farm procedures</p> <p>1.4 Use safely the appropriate tools and equipment according to job requirements and manufacturers conditions</p>	<p>TLE_AFAAPR 9-12UFTE-Ig-h-4</p>
<ul style="list-style-type: none"> • Manual of farm equipment and specifications • Pre-operational checkup of equipment • Calibration and operation of farm equipment • Recognition and reporting of faults in farm tools and equipment • Safety practices in using farm equipment 			<p>LO 2. Select and operate farm equipment</p> <p>2.1 Identify appropriate farm equipment</p> <p>2.2 Carefully read instructional manual of the farm tools and equipment prior to operation</p> <p>2.3 Conduct pre-operation checkup in line with manufacturers manual</p> <p>2.4 Identify and report faults in farm equipment in line with farm procedures</p> <p>2.5 Use farm equipment according to its function</p> <p>2.6 Follow safety procedures</p>	<p>TLE_AFAAPR 9-12UFTE-Ii-j-5</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
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<ul style="list-style-type: none"> • Routine checkup and maintenance of tools and equipment <ul style="list-style-type: none"> - Cleaning of tools and equipment - Inspection of tools and equipment - Proper upkeep of equipment • Application of safety measures and practices during preventive maintenance • Storage of tools per farm procedures 			<p>LO 3. Perform preventive maintenance</p> <p>3.1 Clean immediately the tools and equipment after use in line with farm procedures.</p> <p>3.2 Perform routine checkup and maintenance</p> <p>3.3 Store tools and equipment in designated areas in line with farm procedures.</p>	<p>TLE_AFAAPR 9-12 UFTE-IIa-6</p>
LESSON 3: PERFORMING ESTIMATION AND BASIC CALCULATION (PEBC)				
<ul style="list-style-type: none"> • Farm inputs <ul style="list-style-type: none"> - Materials and other resources • Labor requirements • Estimating farm inputs and labor requirements • Reporting estimated materials and resources to appropriate person <ul style="list-style-type: none"> - Preparation of reports - Record keeping 	<p>The learner demonstrates an understanding of basic estimation and calculation used in animal production</p>	<p>The learner must be able to perform estimation and basic calculation relative to animal production</p>	<p>LO 1. Perform estimation</p> <p>1.1 Identify job requirements from written or oral communications</p> <p>1.2 Estimate the quantities of materials and resources required to complete a work task</p> <p>1.3 Estimate the time needed to complete a work activity</p> <p>1.4 Make accurate estimate for work completion</p> <p>1.5 Report the estimated materials and resources to appropriate person</p>	<p>TLE_AFAAPR 9-12PEBC-IIb-7</p>
<ul style="list-style-type: none"> • Basic mathematical operations • Systems of measurement • Units of measurement 			<p>LO 2. Perform basic workplace calculation</p> <p>2.1 Identify calculations to be made according to the job requirement.</p> <p>2.2 Identify correct methods of calculation</p>	<p>TLE_AFAAPR 9-12 PEBC-IIb-c-8</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
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<ul style="list-style-type: none"> • Basic calculation • Methods of calculation • System and unit of measurements • Percentage and fraction 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 Use appropriate operations to comply with the job requirement 2.6 Employ different techniques in checking accuracy of result	
LESSON 4: PROCESSING FARM WASTE (PFW)				
<ul style="list-style-type: none"> • Tools and materials for agricultural waste collection • Wearing of PPE • Collection of waste <ul style="list-style-type: none"> - Types of farm wastes - Waste collection requirements and plan - OSHS - HAZMAT protocol - Profitability of the operation • Management of waste 	The learner demonstrates an understanding on the processing of farm waste	The learners shall be able to process farm waste	LO 1. Collect farm waste 1.1 Prepare tools and materials are for collection of farm waste 1.2 Collect waste following OSHS and waste collection requirements and plan 1.3 Collect dangerous and hazardous waste following the HAZMAT (hazardous material) protocol 1.4 Wear appropriate PPE as prescribed by OSHS	TLE_AFAAPR 9-12PFW-IIc-9
<ul style="list-style-type: none"> • Identification of farm waste by category <ul style="list-style-type: none"> - Verification of farm waste identification from authority • Waste segregation <ul style="list-style-type: none"> - Contamination prevention - Sorting 			LO 2. Identify and segregate waste 2.1 Identify waste by categories according to industry standards and environmental legislation 2.2 Segregate wastes according to organizational requirements and relevant legislation 2.3 Label sorted waste is placed in container to avoid littering and prevent cross-	TLE_AFAAPR 9-12PFW-IIId-10

K to12 BASIC EDUCATION CURRICULUM
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<ul style="list-style-type: none"> - Placing in labeled containers • Codes and regulations on waste identification and segregation 			contamination 2.4 Obtain information on waste by asking authority to ensure correct identification	
<ul style="list-style-type: none"> • Hazardous waste categories • Proper handling of waste <ul style="list-style-type: none"> - OSH • Processing of waste <ul style="list-style-type: none"> - OSHS • Waste segregation list • 3 Rs (reduce, reuse, recycle) • Environmental legislations/policies on waste management and disposal 			LO 3. Treat and process farm waste 3.1 Handle dangerous and hazardous wastes according to organizational requirements and relevant legislation following OSHS procedures 3.2 Do processing of farm wastes following environmental legislation and codes. 3.3 Apply principles of 3Rs accordingly 3.4 Dispose of farm waste according to environmental legislation and codes	TLE_AFAAPR 9-12PFW- IIId-11
<ul style="list-style-type: none"> • Placing of warning sign and labels in workplace • Cleaning of work area <ul style="list-style-type: none"> - 5S of good housekeeping - Housekeeping - Maintenance schedule - Housekeeping inspection checklist • Cleaning and checking tools <ul style="list-style-type: none"> - Industry procedures and user’s manual 			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 tools according to established industry procedures and following user’s manual 4.4 Clean tools according to established industry procedures and following user’s manual 4.5 Stow tools according to established industry procedures and following user’s manual 4.6 Store materials following industry standard	TLE_AFAAPR 9-12PFW- IIe-12

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
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<ul style="list-style-type: none"> • Storage of materials and equipment <ul style="list-style-type: none"> - Industry procedures - Inspection of PPE and equipment • Record keeping according to industry requirements 			<p>procedures and manufacturer's specifications</p> <p>4.7 Check PPE for damage prior to ensuring that clean and undamaged equipment is stored</p> <p>4.8 Check storage facility to ensure no contamination in the area according to organizational requirements and legislation and codes</p> <p>4.9 Perform record keeping according to industry requirements</p>	
CORE COMPETENCIES				
LESSON 5: MAINTAINING HOUSING, FARM IMPLEMENTS AND SURROUNDING AREAS (MHFISA)				
<ul style="list-style-type: none"> • Inspection of common environmental problems in raising ruminants • Proper techniques in preparation of tools, equipment, and materials • OSHS awareness • Recording and Reporting of conditions of facilities 	The learners demonstrate an understanding of the underlying theories in preparing for farm maintenance activities	The learners shall be able to prepare for farm maintenance activities based on TESDA Training Regulations	<p>LO 1. Prepare for farm maintenance activities</p> <p>1.1 Check farm and surrounding area for problems according to enterprise and DENR standards</p> <p>1.2 Prepare equipment, tools and materials for maintenance activities according to OSHS</p> <p>1.3 Record and report the condition of facilities to appropriate authority based on enterprise requirements</p>	TLE_AFAAPR 9-12MHFISA-II f-13
<ul style="list-style-type: none"> • Farm Maintenance <ul style="list-style-type: none"> - Types of housing - Appropriate Design of Facilities - Acquisition of farm supplies and tools • Pest and Parasite Control/ Management <ul style="list-style-type: none"> - Environmental 			<p>LO 2. Maintain farm and housing facilities</p> <p>2.1 Maintain farm based on enterprise standards</p> <p>2.2 Control Pest and vermin according to industry procedures and environmental regulations (Environmental Management Standards)</p> <p>2.3 Maintain animal housing and facilities according to BAI</p>	TLE_AFAAPR 9-12MHFISA-II g-i-14

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> Management Standards • Animal Housing and facilities as per Bureau of Animal Industry (BAI) • Fence and Fencing Materials • OSHS for maintenance of farm and housing facilities 			<ul style="list-style-type: none"> 2.4 Make farm supplies and tools available for maintenance according to farm requirements 2.5 Repair fence according to work requirements 2.6 Apply safety measures according to OSHS 	
<ul style="list-style-type: none"> • Identification of Bio-security threats and hazards <ul style="list-style-type: none"> - Animal health standards of BAI and the Department of Agriculture (DA) • Application of bio-security measures <ul style="list-style-type: none"> - BAI and DA rules - OSHS • Collection and Maintenance of records <ul style="list-style-type: none"> - Relevant records 			<p>LO 3. Apply bio-security measures.</p> <ul style="list-style-type: none"> 3.1 Identify bio-security threats and hazards with reference to BAI-DA animal health standards 3.2 Apply bio-security measures according to BAI-DA standards and OSHS 3.3 Collect and maintain relevant records according to enterprise standards 	<p>TLE_AFAAPR 9-12MHFISA-III-j-IIIa-15</p>
<ul style="list-style-type: none"> • Maintenance and storage of tools and materials <ul style="list-style-type: none"> - The 5S principles of good housekeeping • Proper waste disposal <ul style="list-style-type: none"> - 3 Rs principle - DENR regulations • Preparation and submission of reports on work outputs 			<p>LO 4. Perform work to completion</p> <ul style="list-style-type: none"> 4.1 Maintain tools and materials according to established enterprise practices and following 5S principle 4.2 Store tools and materials according to established enterprise practices and following 5S principle 4.3 Dispose of farm waste according to DENR regulations and 3Rs principle 4.4 Prepare a report on work outputs and updates 	<p>TLE_AFAAPR 9-12MHFISA-IIIb-d-16</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			4.5 Submit report on works outputs to concerned authority according to industry practices	
LESSON 6: PROVIDING FORAGE (PFRG)				
<ul style="list-style-type: none"> • Preparation of tools, equipment, and materials for the operation • Forage area clearing • Land preparation • Fencing and fencing materials <ul style="list-style-type: none"> - OSHS in preparation of forage area 	The learners demonstrate an understanding of the underlying theories in providing forage	The learners shall be able to provide forage based on TESDA Training Regulations and BAI standards	LO 1. Prepare area for forage plantation <ol style="list-style-type: none"> 1.1 Prepare tools, materials, and equipment according to work requirements and plan 1.2 Clear the forage area from unwanted vegetation and obstructions according to site plan 1.3 Prepare land according to site plan and production requirements 1.4 Set up the fence in the perimeter following site plan 1.5 Practice safety measures according to OHS procedures 	TLE_AFAAPR 9-12PFRG-IIIId-f-17
<ul style="list-style-type: none"> • Different forage species for different types of ruminants • Source out/ sourcing quality forages planting materials • Collection of forage planting materials <ul style="list-style-type: none"> - Reliable sources • Planting forages <ul style="list-style-type: none"> - Techniques of planting forages - OSHS 			LO 2. Plant forage species <ol style="list-style-type: none"> 2.1 Determine forage species to be planted according to types of ruminants and availability of forage species 2.2 Source out forage planting materials from recommended sources 2.3 Collect forage planting materials from reliable sources 2.4 Plant forage species according to plan and production requirements. 2.5 Perform task according to OSHS 	TLE_AFAAPR 9-12PFRG-IIIg-j-IVa-18

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Employ pest control measures <ul style="list-style-type: none"> - Phil Good Agricultural Practices - pest control management • Fertilizer application <ul style="list-style-type: none"> - Types of fertilizers - Method of fertilizer application • Irrigation <ul style="list-style-type: none"> - Water Requirements per forage plant - Methods of Irrigation • Other Maintenance Practices <ul style="list-style-type: none"> - Phil GAP on maintenance of forage plants - OSHS on maintenance of forage plants 			<p>LO 3. Maintain forage plants</p> <p>3.1 Employ pest control measures according to Good Agricultural Practices (GAP)</p> <p>3.2 Apply fertilizers according to plant requirements</p> <p>3.3 Water plants according to plant requirements</p> <p>3.4 Do other maintenance practices following GAP and plant requirements</p> <p>3.5 Perform tasks following GAP and OSHS procedures</p>	<p>TLE_AFAAPR 9-12PFRG-IVb-d-19</p>
<ul style="list-style-type: none"> • Harvesting forages <ul style="list-style-type: none"> - Gathering excess forages and other materials • Silage making <ul style="list-style-type: none"> - Materials for silage making - Procedure for silage making • Usage of silo • Ensiling <ul style="list-style-type: none"> - Steps of ensiling - Mixing of commercial silage additives 			<p>LO 4. Produce silage</p> <p>4.1 Gather excess forages and other materials for silage following established farm procedures</p> <p>4.2 Use silos according to supply of silage materials</p> <p>4.3 Ensile according to standard procedures</p> <p>4.4 Mix commercial silage additives according to enterprise requirements</p> <p>4.5 Store forage silage following established storage requirements and condition</p> <p>4.6 Inspect forage silage for quality check and improvement</p>	<p>TLE_AFAAPR 9-12PFRG-IVd-f-20</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Storage of forage silage <ul style="list-style-type: none"> - Storage requirements and condition • Inspection and improvement of forage silage <ul style="list-style-type: none"> - Quality silage 				
<ul style="list-style-type: none"> • Proper cleaning of tools and equipment • Maintenance of tools and equipment <ul style="list-style-type: none"> - Handling of tools and equipment • Storage of tools and equipment • Maintenance of clean and safe area <ul style="list-style-type: none"> - Clean and safe workplace • Record Keeping of silage Production <ul style="list-style-type: none"> - 5S principles of good housekeeping • Reporting of work output to concerned person 			<p>LO 5. Perform work to completion</p> <p>4.1 Clean tools and equipment according to established standard practice</p> <p>4.2 Maintain tools and equipment according to established standard practice</p> <p>4.3 Store tools and equipment according to established standard practice</p> <p>4.4 Maintain clean and safe area throughout and on completion of work</p> <p>4.5 Compile records of silage production for reference and reporting purposes following enterprise procedures and 5S principles</p> <p>4.6 Report work output to concerned person or authority according to industry practice</p>	<p>TLE_AFAAPR 9-12PFRG-IVg-i-21</p>
LESSON 7: PERFORMING BREEDING OF RUMINANTS (PBR)				
<ul style="list-style-type: none"> • Acquisition of breeds of ruminant <ul style="list-style-type: none"> - Different breeds and types of ruminants - Breed standards - Adaptability to farm environment • Housing and facilities for ruminants <ul style="list-style-type: none"> - Good Animal 	<p>The learners demonstrate an understanding of theories in breeding of ruminants</p>	<p>The learners shall be able to breed ruminants according to BAI standards</p>	<p>LO 1. Prepare animal stocks</p> <p>1.1 Obtain breeds of animals suitable for meat, dairy and mixed-type/dual purpose based on breed standards and adaptability in the farm environment following instructions from authority</p> <p>1.2 Place animals in suitable house and facilities following GAHP and Animal Welfare Act</p> <p>1.3 Regularly feed and maintain animals following the Animal Welfare Act</p>	<p>TLE_AFAAPR 9-12PBR-IVi-j-Ia-22</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> Husbandry Practices (GAHP) <ul style="list-style-type: none"> - Animal Welfare Act • Feeding and maintenance of the breeders <ul style="list-style-type: none"> - Animal Welfare Act 				
<ul style="list-style-type: none"> • Preparation of tools, materials, and equipment for breeding operations <ul style="list-style-type: none"> - Breeding schedule - Breeding requirements • Breeding program for ruminants <ul style="list-style-type: none"> - Suggested breeding programs - Business objective • Reproductive Phenomena of Ruminants <ul style="list-style-type: none"> - Observing and recording reproductive phenomena - Reporting reproductive phenomena • Breeding animals <ul style="list-style-type: none"> - Natural breeding - Mating plan - Artificial breeding for small ruminants - Animal Welfare Act on breeding • Safety Measures <ul style="list-style-type: none"> - Occupational Safety and Health Standard on breeding operation for ruminants 			<p>LO 2. Breed ruminants</p> <ul style="list-style-type: none"> 2.1 Prepare tools, materials, and equipment for breeding operations following breeding schedule and requirements 2.2 Follow breeding program for ruminants according to the business objective 2.3 Observe and record reproductive phenomena of ruminants following enterprise protocols 2.4 Report reproductive phenomena of ruminants following enterprise protocols 2.5 Breed ruminants naturally according to designed mating plan 2.6 When necessary, inseminate artificially small ruminant according to instructions of supervisor 2.7 Perform tasks following Animal Welfare Act 2.8 Practice Safety measures according to OSHS procedures 	<p>TLE_AFAAPR 9-12PBR-Ib-f-23</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Breeding performance of ruminants <ul style="list-style-type: none"> - Observation and recording - Reports of breeding performance of ruminants • Treatment of unproductive animals • Disposal of unproductive animals <ul style="list-style-type: none"> - Criteria for judging breeders - Judging and culling • Collection and keeping production data <ul style="list-style-type: none"> - Record keeping 			<p>LO 3. Carry out monitoring activities.</p> <p>3.1 Observe and record the breeding performance of ruminants following enterprise protocols</p> <p>3.2 Report the breeding performance of ruminants following enterprise protocols</p> <p>3.3 Treat unproductive animals according to the set standard</p> <p>3.4 Dispose of unproductive animals according to the set standard</p> <p>3.5 Gather and keep breeding and reproduction data regularly for evaluation according to enterprise protocols</p>	<p>TLE_AFAAPR 9-12PBR-Ig-i-24</p>
<ul style="list-style-type: none"> • Provision of basal rations for ruminants <ul style="list-style-type: none"> - Rations for Ruminant at various physiological stages • Feed Supplements per animal requirements <ul style="list-style-type: none"> - Concentrates - Minerals - Vitamins • Different grazing Management for ruminants • Grazing capacity of the pasture <ul style="list-style-type: none"> - Stocking density/rate 			<p>LO 4. Feed the animals</p> <p>4.1 Provide basal rations for ruminants at various physiological stages based on industry standard</p> <p>4.2 Offer feed supplements like concentrates, minerals, and vitamins according to animal dietary requirements</p> <p>4.3 Identify and practice grazing management for ruminants</p> <p>4.4 Determine grazing capacity of the pasture based on pasture land condition</p>	<p>TLE_AFAAPR 9-12PBR-II-j-IIa-25</p>
<ul style="list-style-type: none"> • Common diseases and their signs • Assistance in implementation of 			<p>LO 5. Apply basic health care.</p> <p>5.1 Report sick animals to appropriate authority</p> <p>5.2 Provide assistance during implementation of medication program in accordance with</p>	<p>TLE_AFAAPR 9-12PBR-IIb-d-26</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> medication programs • Safety practices <ul style="list-style-type: none"> - OSHS on application of basic health care to animal 			<ul style="list-style-type: none"> enterprise standards and instructions of authority 5.3 Observe safety practices according to OSHS 	
<ul style="list-style-type: none"> • Proper cleaning and storage of tools, materials, and equipment <ul style="list-style-type: none"> - 5S principles - Procedural manual for equipment • Proper disposal of waste <ul style="list-style-type: none"> - DENR regulations • Update and keep records • Preparation and reporting of work outputs 			<p>LO 6.Perform post-breeding activities.</p> <ul style="list-style-type: none"> 6.1 Clean and store tools, materials, and equipment following procedural manual and 5S principles 6.2 Practice proper disposal of waste according to DENR regulations 6.3 Update and keep records following enterprise protocol 6.4 Report work outputs to the authority following enterprise protocol 	<p>TLE_AFAAPR 9-12PBR-IIId-f-27</p>
LESSON 8: RAISING DAIRY ANIMALS (RDA)				
<ul style="list-style-type: none"> • Housing provision for Pregnant animals • Providing assistance during calving/kidding <ul style="list-style-type: none"> - Practices during calving/ kidding • Feeding management for lactating animals • Maintain lactating ruminants • Collection of milk <ul style="list-style-type: none"> - Practices in milking the animals • Quality of milk <ul style="list-style-type: none"> - Milk checking 	<p>The learners demonstrate an understanding of theories in raising dairy animals</p>	<p>The learners shall be able to raise dairy animals based on Bureau of Animal Industry standard</p>	<p>LO 1. Handle dairy animals.</p> <ul style="list-style-type: none"> 1.1 Separate and keep pregnant animals from the general herd in gestating pen. 1.2 Provide assistance during calving/ kidding according to GAHP 1.3 Feed lactating ruminants according to standards 1.4 Maintain lactating ruminants following production objective 1.5 Collect milk based on the standard procedures 1.6 Check milk for quality based on the standard procedures 1.7 Pasteurize the collected milk following standard hygienic procedures (HACCP) 	<p>TLE_AFAAPR 9-12RDA-IIIf-h-28</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> procedure • Milk pasteurization <ul style="list-style-type: none"> - HACCP • Packaging of pasteurized milk <ul style="list-style-type: none"> - HACCP 			1.8 Package the pasteurized milk following standard hygienic procedures (HACCP)	
<ul style="list-style-type: none"> • Rearing newly born calf/ kid <ul style="list-style-type: none"> - System in raising calves/ kids • Preparation of tools and material <ul style="list-style-type: none"> - Common tools and materials in raising calves/ kids • Feeding the calves/ kids <ul style="list-style-type: none"> - Feeding programs - Specialized feeding • Separation of calves/kids required for routine husbandry • Progress and development of calves/kids <ul style="list-style-type: none"> - weighing - visual appraisal • Reporting welfare and health management abnormalities 			<p>LO 2. Rear calves and kids</p> <ul style="list-style-type: none"> 2.1 Rear newly born calf /kid according to the developed rearing system 2.2 Prepare tools and materials according to work requirements 2.3 Carry out routine feeding at prescribed feeding intervals 2.4 Identify and separate small and less vigorous calves and kids from others for specialized feeding 2.5 Separate calves / kids required for routine husbandry or animal health procedures 2.6 Monitor regularly the progress and development of calves through weighing and/or visual appraisal 2.7 Report welfare and health abnormalities to the appropriate authority 	TLE_AFAAPR 9-12RDA-III-j-IIIa-c-29
<ul style="list-style-type: none"> • Housing breeder animals <ul style="list-style-type: none"> - Appropriate housing - GAHP • Feeding management of 			<p>LO 3. Rear dairy-breeder animals</p> <ul style="list-style-type: none"> 1.1 Place dairy-breeder- animals-to-be in appropriate housing according to established farm procedures and GAHP 	TLE_AFAAPR 9-12RDA-IIIId-f-30

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> breeders • Health care management for breeder • Recording and reporting welfare and health abnormalities • Monitoring health condition of animals <ul style="list-style-type: none"> - Weighing animals - Visual appraisal • Selection of adult breeder for dairy-type animals for breeding purposes • Culling of male animals <ul style="list-style-type: none"> - Judging breeder animals - Culling breeder animals 			<ul style="list-style-type: none"> 1.2 Feed animals according to prescribed feeding intervals 1.3 Report welfare and health abnormalities to the appropriate authority 1.4 Perform monitoring of animals regularly through weighing and/or visual appraisal 1.5 Select adult breeder for dairy-type animals for breeding purposes according to breed's standard 1.6 Cull male animals not intended for breeding 	
<ul style="list-style-type: none"> • Keeping and updating animal and financial records <ul style="list-style-type: none"> - Types of animal records - Financial records • Maintenance and storage of tools and materials <ul style="list-style-type: none"> - Manufacturer's specification - Enterprise protocols • Cleaning the area <ul style="list-style-type: none"> - Health and sanitation of area • Dispose of waste <ul style="list-style-type: none"> - OSHS on waste disposals - DENR Regulations 			<p>LO 4. Complete the operations</p> <ul style="list-style-type: none"> 4.1 Keep and update animal and financial records derived from dairy operations according to industry standards 4.2 Maintain tools and materials according to manufacturer's specification and enterprise protocol 4.3 Store tools and materials according to manufacturer's specification and enterprise protocol 4.4 Clean the area according to enterprise protocol 4.5 Dispose of waste following environmental regulations and enterprise procedures 	<p>TLE_AFAAPR 9-12RDA- IIIIf-h-31</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 9: RAISING MEAT-TYPE ANIMALS (RMTA)				
<ul style="list-style-type: none"> • Assisting in selection process for meat-type animals • Determination of feeding and management of growing ruminants meat type <ul style="list-style-type: none"> - Feeds - Housing • Management of unproductive animals • Preparation of animals for disposal in market <ul style="list-style-type: none"> - Fasting/ selection of fit animals - Proper handling and loading - Preparation of transport vehicle • Assisting in animal husbandry practices • Good Animal Husbandry Practices (GAHP) for raising meat-type animals 	The learners demonstrate understanding of the underlying theories in raising meat-type animals	The learners shall be able to raise meat-type animals based on Bureau of Animal Industry standards	LO 1. Provide assistance in management of meat-type animals <ol style="list-style-type: none"> 1.1 Provide assistance in preselection process of meat-type animals following instructions of authority and industry standards 1.2 Raise meat-type animals in complete/semi-confinement or under grazing conditions 1.3 Determine fattening period according to the target market weight 1.4 Manage unproductive animals according to the industry standards 1.5 Provide assistance in animal husbandry practices following GAHP technique 	TLE_AFAAPR 9-12RMTA-IIIi-j-IVa-c-32
<ul style="list-style-type: none"> • Basal ration for meat-types <ul style="list-style-type: none"> - Identification of basal ration for meat-type animals - Feeding practices for meat-type animals • Feeding basal ration for meat-type animals <ul style="list-style-type: none"> - Identifying feeding management for meat- 			LO 2. Feed the animals <ol style="list-style-type: none"> 2.1 Identify basal rations for meat-type animals at various fattening periods based on feeding standard 2.2 Provide Basal rations for meat-type animals at various fattening periods based on feeding standard 2.3 Offer feed supplements like concentrates, minerals, and vitamins according to animal requirements 	TLE_AFAAPR 9-12RMTA-IVc-e-33

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> type animals - Feed conversion efficiency - Offering feed Supplements • Practicing feeding management for animals • Determining grazing capacity of the pasture <ul style="list-style-type: none"> - Stocking rate/ density 			<ul style="list-style-type: none"> 2.4 Identify feeding management for meat-type animals 2.5 Practice feeding management for meat-type animals 2.6 Determine grazing capacity of the pasture based on established pasture 	
<ul style="list-style-type: none"> • Assistance in implementation of medication program <ul style="list-style-type: none"> - Reporting sick animals - Provision of basic health assistance - Immunization - Deworming - Vaccination - Handling biologicals and disinfectants - Proper provision of drugs, vaccines, and other biological • Practicing OSHS and health standards <ul style="list-style-type: none"> - OSHS on application of health care for meat-type animals - wearing PPE • Waste disposal <ul style="list-style-type: none"> - 5S implementation - DENR regulations 			<p>LO 3. Apply basic health care</p> <ul style="list-style-type: none"> 3.1 Report sick animals to appropriate authority 3.2 Provide assistance during implementation of medication program in accordance with industry standards and instructions of authority 3.3 Perform supplementation based on medication program 3.4 Observe safety practices according to OSHS. 	<p>TLE_AFAAPR 9-12RMTA- IVf-h-34</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Selection of breeder for meat-type animals for breeding purposes • Preparation for market disposal <ul style="list-style-type: none"> - Marketing fatteners - GAHP - Humane handling and transport from farm to market/ slaughterhouse • Update and keep animal and financial records <ul style="list-style-type: none"> - Inventory records - Expense records - Sales reports 			<p>LO 4. Perform work to completion</p> <p>4.1 Select breeder for meat-type animals for breeding purposes according to breed standard</p> <p>4.2 Prepare animals for market disposal following instructions of authority</p> <p>4.3 Update and keep Animal records and financial records derived from meat-type animals according to industry standard</p> <p>4.4 Dispose of waste according to enterprise protocol and environmental legislations</p> <p>4.5 Maintain tools, materials, and supplies according to enterprise procedures</p> <p>4.6 Store tools, materials, and supplies according to enterprise procedures</p> <p>4.7 Do immediate reporting to authority following enterprise requirements</p>	<p>TLE_AFAAPR 9-12RMTA- IVh-j-35</p>

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	EQUIPMENT	MATERIALS		
<ul style="list-style-type: none"> • Weighing scale (1000 kg. cap.) Small ruminants - 200 kg capacity • Tattoo pliers • Hammer • Syringes (5 to 20ml cap.) • Shovel • Wheelbarrow • Mineral boxes • Waterer • Feeding trough • Milking pails • Ear applicator • Elastrator • Hot iron dehorner • Hoof trimmer • Knife cutter • Burdizzo • Planting tools • Carpentry tools • Garden hose 	<ul style="list-style-type: none"> • Electric disbudder • Electric shearer • Hoof grinder • Fire extinguisher • Foot baths • Forage chopper • Shredder • Double broiler • Stancheon • Chute • Refrigerator • Audiovisual • Water system • Water tank • PPE: <ul style="list-style-type: none"> - Dust coats - Mask - Gloves - Boots - Raincoats 	<ul style="list-style-type: none"> • Medicines (vitamins and antibiotics) • Dewormer • Vaccines • Supplemental feeds • Ear tags, branding iron • Disinfectant • Detergent • Scrub broom • Trash can • Hand soap/ sanitizer • Ice –crushed (for water bath after pasteurization) • Milk bottles • Forage planting materials • Disposable gloves • Hairnet • Organic fertilizers • Animals (Ruminants) • Learning Materials <ul style="list-style-type: none"> - Books - Manuals - Other references 	<ul style="list-style-type: none"> • Brainstorming • Demonstration • Direct observation • Discussion • Videos/Film viewing • Group discussion • Lecture • Multimedia presentation • Practical application of skills • Self-paced learning/ modular interaction • Plant tour • Symposium • Farm visit • Practical exercises • Hands on 	<ul style="list-style-type: none"> • Actual demonstration • Demonstration of practical skills • Direct observation • Interview/Oral questioning • Written examination

K to12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
AGRI-FISHERY ARTS – ANIMAL PRODUCTION (LARGE RUMINANTS) NC II
(320 hours)

GLOSSARY

Animal Welfare Act	- requires that minimum standards of care and treatment be provided for certain animal bred for commercial sale, used in research, transported commercially, or exhibited to the public
Beef	- meat of cattle
Breed	- A group of animals that have specific traits or characteristics carried from generation to generation which serves to distinguished them in the group
Biosecurity	- a set of measures designed to maintain a flock or herd at a particular health status and to prevent the entry of specific infectious agent
Biologics	- medicinal preparation made from living organisms and their products, such as a serum or vaccine
Buck	- male breeder goat
Buckling	- young male-breeder goat
Bull	- uncastrated cattle intended as breeder
Bureau of Animal Industry	- the Philippine agency responsible to conduct scientific investigations, administer statutes and regulations to protect the public from infection or disease contaminated meat products, eradicate animal diseases, and improve livestock quality
Cage housing	- a type or system of animal housing where ruminant could be kept alone, by two or in big groups in cage
Calf	- a newly born male or female cattle or buffalo
Calving	- the act of delivering/parturition among cattle
Castration	- act of removing testicles of male animal
Chevon	- meat of goat
Colostrum	- first milk of an animal after giving birth
Concentrates	- kind of feed high in digestible nutrients but low in fiber content
Cow	- a mature female cattle
Crossbreed	- a group of animals produced by mating two different breeds or strains
Culling	- the removal of undesirable animals in the herd based on important economic traits and overall performance
Dehorning	- the process of removing the horns of the animal
Disbudding	- the removal of the horn buds from (a young animal)
Doe	- female goat that has given birth, usually more than one year old
Doeling	- female goat that has not given birth, usually less than one year old
Dry period	- resting period for the dairy cow, where fresh udder tissue is formed in readiness for the lactation
Feed supplements	- nutritive materials that are feedstuffs in their own right and which are added to a basic diet such as pasture to supplement its deficiencies
Forage	- plant material that livestock graze or that is cut and fed to them
Equipment	- power tools and machines used in animal production
Estrus	- period of time when the female will accept male; also known as heat period
Feed	- edible materials which are consumed by animals and thus contribute energy or nutrients to the animal diet
Gestation period	- refers to the period of carrying the young in the uterus
Heifer	- a young female cattle or buffalo
Hygiene	- practices conducive to maintaining health and preventing disease, especially through cleanliness
Immunization	- prevention of diseases by providing appropriate vaccines to animals

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Inbreeding	- mating of closely related animals in a herd
Kid	- the young of a goat
Kidding	- act of giving birth of goat
Livestock	- domestic animals kept for use on a farm and raised for sale and profit
Livestock auction market	- a market in which buyers indicate the highest price for the livestock they are willing to pay and sellers indicate the lowest price they are willing to sell their animals.
Legumes	- grown primarily for their grain seed called pulse, for livestock forage and silage, and as soil-enhancing green manure (e.g., beans, peas, clover, and alfalfa)
Nutrients	- food elements or substance found in the feeds such as protein, carbohydrates, fats, and others
OSHS	- Occupational Safety and Health Standards; covers the preventive (primary, secondary, tertiary prevention) aspects of OSH in every workplace, public or private
Parasite	- an organism that lives in or on another organism (its host) and benefits by deriving nutrients at the host's expense
Pasture	- land covered with grass and other low plants suitable for grazing animals
Pasteurization	- partial sterilization of a substance and especially a liquid (as milk) at a temperature and for a period of exposure that destroys objectionable organisms without major chemical alteration of the substance
Pest	- a destructive insect or other animal that attacks livestock
Polled animal	- livestock without horns in species that are normally horned
Purebreeding	- is the mating of the unrelated individuals in the same breed
Ration	- the total amount of feeds taken in by an animal during a 24-hour period
Ruminants	- refers to animals with complex digestive system, e.g., cattle, carabao, goats, and sheep
Sanitation	- the removal of the disease-causing organisms
Selection	- refers to the process of choosing males and females with desirable characteristics either for breeding or replacement stocks
Silage	- grass or other green fodder compacted and stored in airtight conditions, typically in a silo, without first being dried, and used as animal feed in the winter
Silo	- a structure, typically cylindrical, in which fodder or forage is kept
Simple stomach/ nonruminant animals	- animals that possess simple digestive system, e.g., poultry, horses, and pigs
Steer	- a young male calf one year to 18 months old
Vaccination	- a preventive measure to inoculate an animal with a mildly toxic preparation of bacteria or a virus of specific disease to prevent or to lessen the effects of the disease
Veal	- the flesh of a calf, used as food
Waterer	- equipment used in providing water to animal
Weaning	- transfer of the calf/ kid from milk-based diet to a fibrous diet
Weanling	- refers to a young animal of either sex, which has been separated from the mother at the end of the lactation period
Yearling	- an animal that is one year old or has not completed its second year

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CODE BOOK LEGEND
Sample: TLE_AFAAPR9-12ASMFO-Ia-b-1

LEGEND		SAMPLE		DOMAIN / COMPONENT	CODE
First Entry	Learning Area and Strand/ Subject or Specialization	Senior High School Technical-Vocational-Livelihood Track - Agriculture and Fishery Arts	TLE_AFA	Common Competencies	
		Animal Production (Ruminants) NC II	APR	Applying Safety Measures In Farm Operations	ASMF
	Grade Level	9 to 12	9-12	Using Farm Tools And Equipment	UFTE
Uppercase Letter/s	Domain/ Content/ Component/ Topic	Applying Safety Measures in Farm Operations	ASMFO	Performing Estimation and Basic Calculation	PEBC
				Processing Farm Waste	PFW
				Core Competencies	
Roman Numeral *Zero if no specific Quarter	Quarter	First Quarter	I	Maintaining Housing, Farm Implements, and Surrounding Areas	MHFS
Lower case letter/s *put an en dash (-) between letters to indicate more than a specific week	Week	Week one to two	a-b	Provide Forage	PFRG
			-	Performing Breeding of Ruminants	PBR
Arabic Number	Learning Competency	Determine areas of concern for safety measures	1	Raising Dairy Animals	RDA
				Raising Meat-type Animals	RMTA

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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Reference:

Technical Education and Skills Development Authority-Qualification Standards Office. *Training Regulations for Animal Production Production (Large Ruminants) NC II*. Taguig City, Philippines: TESDA, 2013.