K TO 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
AGRI-FISHERY ARTS – RUBBER PRODUCTION 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) *updated based on TESDA Training Regulations published December 28, 2013*	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) *updated based on TESDA Training Regulations published December 28, 2013*	320 hours	
6.	Animal Production (Large Ruminants) (NC II) *updated based on TESDA Training Regulations published December 28, 2013*	320 hours	
7.	Animal Production (Swine) (NC II) *updated based on TESDA Training Regulations published December 28, 2013*	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	

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) *updated based on TESDA Training Regulations published December 28, 2013*	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) *updated based on TESDA Training Regulations published December 28, 2013*	160 hours	
21.	Local Guiding Services (NC II)	160 hours	
22.	Tailoring (NC II)	320 hours	
23.	Tourism Promotion Services (NC II)	160 hours	
24.	Travel Services (NC II)	160 hours	
25.	Wellness Massage (NC II)	160 hours	

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INDUSTRIAL ARTS

	Specialization	Number of Hours	Pre-requisite
1.	Automotive Servicing (NC I) *updated based on TESDA Training Regulations published December 28, 2013*	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) *updated based on TESDA Training Regulations published December 28, 2013*	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)

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) *updated based on TESDA Training Regulations published December 28, 2013*	320 hours	
4.	Computer Programming (Java) (NC III) *updated based on TESDA Training Regulations published December 28, 2013*	320 hours	
5.	Computer Programming (Oracle Database) (NC III) *updated based on TESDA Training Regulations published December 28, 2013*	320 hours	
6.	Computer Systems Servicing (NC II) *updated based on TESDA Training Regulations published December 28, 2007*	640 hours	
7.	Contact Center Services (NC II)	320 hours	
8.	Illustration (NC II)	320 hours	
9.	Medical Transcription (NC II)	320 hours	
10.	Technical Drafting (NC II)	320 hours	
11.	Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)	320 hours	Computer Systems Servicing (NC II)
12.	Telecom OSP Installation (Fiber Optic Cable) (NC II)	160 hours	Computer Systems Servicing (NC II)

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Course Description:

This qualification is designed to enhance the knowledge, skills and desirable attitudes in rubber production. Its **Basic Competencies:** i) participating in workplace communication, 2) working in a team environment, 3) practicing career professionalism, and 4) practicing occupational health and safety procedures, are embedded in the **Common Competencies**: 1) applying safety measures in farm operations. 2) using farm tools and equipment; and 3) performing estimation and calculations, and **Core Competencies:** 1) Establishing rubber budwood and seedlings nursery, 2) planting rubber trees/rubber seedlings, 3) performing budding operation, and 4) harvesting latex.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Basic concepts in Rubber production 2. Relevance of the course 3. Career opportunities	The learner demonstrates an understanding of basic concepts and underlying theories in Rubber production.	The learner independently demonstrates common competencies in Rubber Production as prescribed by TESDA Training Regulations.	1. Explain basic concepts in Rubber Production. 2. Discuss the relevance of the course. 3. Explore career opportunities in Rubber Production.	
PERSONAL ENTREPRENEURIAL COMPETENCIES AND SKILLS (PECS)				
1. Assessment of Personal Competencies and Skills (PECS) vis-à-vis PECS of a practicing entrepreneur/ employee: 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of 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 Rubber Production.	**LO 1. Recognize Personal Competencies and Skills (PECS) needed in Rubber Production.** 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.	**TLE_PECS9-12-00-1**
ENVIRONMENT AND MARKETING (EM)				
1. Key concepts of Environment and Market 2. Products and services available in the market 3. Concept of differentiation	Learner demonstrates understanding of the environment and market of Rubber Production.	The learner independently identifies the products/services available, the customers, and the competition within the Rubber Production market.	**LO 1. Recognize and Understand the market for Rubber Production** 1.1 Identify the different products/services available in the market. 1.2 Enumerate the differences between these	**TLE_EM9-12-00-1**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
of products and services 4. Concept of Customers and the reasons they buy products and services 5. Competitors in the market			products. 1.3 Identify the customers and the reason these products/services are purchased. 1.4 Identify the companies selling these products/services in the market.	
COMMON COMPETENCIES				
LESSON 1. APPLYING SAFETY MEASURES IN FARM OPERATIONS (ASM)				
• Work task • Safety measures for a workplace – place – time • Tools, materials and outfits	The learner demonstrates an understanding of the underlying theories in applying safety measures in farm operations.	The learner independently applies safety measures in farm operations.	**LO1. Determine areas of concern for safety measures.** 1.1 Identify w*ork tasks* in line with farm operations. 1.2 Determine ***place*** for safety measures in line with farm operations. 1.3 Determine t***ime*** for safety measures in line with farm operations. 1.4 Prepare appropriate ***tools, materials and outfits*** in line with job requirements.	**TLE_AFARBP9-12ASM-Ia-1**
• Uses of tools & materials • Personal Protective Equipment • Effectivity /shelf life/expiration of materials • Emergency procedures – Workplace hazards – Report hazards of work place			**LO2. Apply appropriate safety measures** 2.1 Use tools and materials according to specifications and procedures. 2.2 Wear outfits according to farm requirements. 2.3 Observe strictly effectivity/shelf life/expiration of materials. 2.4 Know and follow e***mergency procedures*** to ensure a safe work requirement. 2.5 Identify and report hazards in the workplace in line with farm guidelines.	**TLE_AFARBP9-12ASM-Ia-b-2**
• Clean and store tools and outfits • Label and store unused materials - Technique in storing			**LO3. Safekeep/dispose tools, materials and outfit.** 3.1 Clean used tools and outfit after use and stored in designated areas. 3.2 Label and store properly unused	**TLE_AFARBP9-12ASM-Ib-3**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
materials and chemicals • Waste materials disposal - Principles of 5s - Waste management system			materials according to manufacturers recommendation and farm requirements. 3.3 Dispose ***waste materials*** according to manufacturers, government and farm requirements.	
LESSON 2. USING FARM TOOLS AND EQUIPMENT (UFT)				
• Farm tools - Power tools - Handheld tools • Farm tools faults and defects • Uses of tools and equipment to job requirements	The learner demonstrates an understanding of the underlying theories in using farm tools and equipment	The learner independently uses farm tools and equipment	**LO1. Select and use farm tools.** 1.1 Identify appropriate farm tools according to requirement/use. 1.2 Check farm tools for faults and defective tools reported in accordance with farm procedures. 1.3 Use safely appropriate tools and equipment according to job requirements and manufacturers conditions.	**TLE_AFARBP9 -12UFT-Ic-4**
• Farm equipment - Motorized equipment - Electrical equipment • Instructional manuals ▪ Uses/function of farm equipment • Pre-operational checkup of equipment - Preventive maintenance • Identification and report of faults in farm equipment • Safety procedures			**LO2. Select and operate farm equipment** 2.1 Identify appropriate ***farm equipment.*** 2.2 Read carefully instructional manual of the farm tools and equipment prior to operation. 2.3 Use farm equipment according to its function. 2.4 Conduct p***re-operation check-up*** in line with manufacturers manual. 2.5 Identify and report faults in farm equipment in line with farm procedures. 2.6 Follow safety procedures.	**TLE_AFARBP9 -12UFT-Ic-d-5**
• Clean tools and equipment • Store tools and equipment ▪ Routine checkup and maintenance			**LO3. Perform preventive maintenance.** 3.1 Clean immediately tools and equipment after use in line with farm procedures. 3.2 Store tools and equipment in designated areas in line with farm procedures. 3.3 Perform routine check-up and maintenance.	**TLE_AFARBP9 -12UFT-Id-6**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 3. PERFORMING ESTIMATION AND BASIC CALCULATION (PEC)				
• Job requirements - Written - Oral ▪ Estimates of quantities of materials and resources - Percentage and ratios - Unit Conversion - Problem solving procedures - Estimates of time for completing work activity • Report of estimates of materials and resources			**LO1. Perform estimation.** 1.1 Identify job requirements from written or oral communications. 1.2 Estimate quantities of materials and resources required to complete a work task. 1.3 Estimate the time needed to complete a work activity. 1.4 Make accurate estimate for work completion. 1.5 Report estimate of materials and resources to appropriate person.	**TLE_AFARBP9-12PEC-Ie-7**
• Calculations to job requirements • Methods of calculation • System and units of measurement • Calculations in workplace - 4 basic operations (MDAS) • Calculations involving fractions, percentage - Self-check and complete computed numbers.			**LO2. Perform basic workplace calculation.** 2.1 Identify ***calculations*** to be made according to job requirements. 2.2 Identify correct ***method of calculation.*** 2.3 Ascertain **s*ystem and units of measurement*** to be followed. 2.4 Perform calculation needed to complete work tasks using the four basic processes of addition, division, multiplication and subtraction. 2.5 Calculate whole fraction, percentage and mixed when to complete the instructions. 2.6 Self-check and complete number computed for alignment.	**TLE_AFARBP9-12PEC-Ie-8**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
CORE COMPETENCIES				
LESSON 4: ESTABLISHING RUBBER BUDWOOD AND SEEDLINGS NURSERY (ERB)				
• Site inspection – ocular inspection – characteristics of suitable nursery site • Soil sampling and analysis • Site selection /site evaluation • Site security • Principles of 5S and 3R's • Environmental Codes and regulations	The learner demonstrates an understanding of underlying theories and principles in establishing rubber budwood and seedlings nursery.	The learner independently establishes rubber budwood and seedlings nursery based on Bureau of Plant Industry (BPI) nursery regulations.	**LO 1. Select rubber budwood and seedlings nursery sites.** 1.1 Conduct ocular inspection of the site. 1.2 Gather soil samples for analysis in accordance with standard procedures. 1.3 Select site based on results of analysis and site evaluation. 1.4 Secure site selected from stray animals and unauthorized persons.	**TLE_AFARBP9-12ERB-If-h-9**
• Selection of quality seeds for rootstocks • Seed bed preparation • Seeds germination in seedbeds			**LO 2. Germinate seeds.** 2.1 Select seeds for rootstocks according to seed quality standards. 2.2 Prepare seedbed following the required standards. 2.3 Germinate seeds in seedbed according to established farm procedures.	**TLE_AFARBP9-12ERB-Ih-j-10**
• Land Preparation • procedures – Occupational Safety and Health Standards • Plant germinated seeds in polybags/ ground • Cull unhealthy seedlings – Characteristics of unhealthy seedlings • Replacement of unhealthy seedling -Safety precautionary measures -Environmental codes and regulations			**LO 3. Plant germinated seeds.** 3.1 Perform land preparation according to established farm procedures and observance of safety precautionary measures 3.2 Plant germinated seeds in polybags or directly on ground. 3.3 Cull unhealthy seedlings in accordance to environmental regulations. 3.4 Replace unhealthy seedlings in accordance to environmental regulations.	**TLE_AFARBP9-12ERB-Ij-IIa-b-11**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
• Land Preparation for budwood nursery • Plant budded rubber seedlings - Procedures – Distance of planting budded rubber seedlings – Depth and size of the holes in planting budded rubber seedlings – Method of planting fo budded rubber seedlings – Green and brown budding -Clones – RRIM 600 – PB 260 – PB 330 – TJIR 1 – RRIM 712 – PB 235 – PB 350 – PR107 – NSIC (National Seed Industry Council) recommended clones • Routinary maintenance activities in budwood nursery - Water application - Weeding (types of weeds) - Fertilizer application/fertilization			**LO 4. Establish budwood nursery.** 4.1 Perform land preparation accordance to established farm procedures. 4.2 Plant budded rubber seedling according to clones and prescribed procedures and standards. 4.3 Carry out routinary maintenance activities for seedlings according to established farm practices.	**TLE_AFARBP9-12ERB-IIc-f-12**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
- Application of insecticide and fungicide (types of chemicals) - Pruning - Insect pests of rubber budwood - Signs and symptoms of unhealthy/diseased rubber budwoods - OSHS (safety practices)				
• Weed eradication/control • Drainage construction • Drainage Maintenance • Fertilizer Application - Types of fertilizers - FPA guidelines - Results of soil analysis - Methods of application - Procedure of application • Pruning budwoods - genetic yellowing and damage - Insect pest of rubber plant - Signs and symptoms of unhealthy/diseased rubber seedlings and plants - Pest control measures - Different cover crops - OSHS			**LO 5. Perform maintenance activities.** 5.1 Perform weeding according to established farm procedures. 5.2 Construct drainage according to procedures and plan. 5.3 Maintain drainage according to procedures. 5.4 Apply fertilizer based on the results of soil analysis and in accordance with the prescribed procedure. 5.5 Perform pruning in accordance with established standard and safety practices.	**TLE_AFARBP9-12ERB-IIg-j-13**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 5: PLANTING RUBBER TREES/RUBBER SEEDLINGS (PRT)				
• Site inspection (Ocular) • Soil sampling/Soil analysis • Selection of suitable site for planting - Characteristics of suitable area - Results of soil analysis	The learner demonstrates an understanding of underlying theories and principles in planting rubber trees/rubber seedlings.	The learner independently plants rubber trees/rubber seedlings based on prescribed standards.	**LO 1. Select planting site.** 1.1 Conduct ocular inspection of the site. 1.2 Gather soil samples for analysis in accordance with standard procedures. 1.3 Select site based on results of analysis and suitability of area.	**TLE_AFARBP9-12PRT-IIIa-d-14**
• Safety precautions in land preparation. - OSHS • Site clearing operations • Drainage and canal - Types of drainage and canals - Reading technical plan			**LO 2. Conduct land preparation.** 2.1 Practice safety precautions according to enterprise procedures. 2.2 Carry-out clearing operation in accordance with enterprise policy. 2.3 Prepare drainage and canals in accordance with the technical plan.	**TLE_AFARBP9-12PRT-IIIe-h-15**
• Site lay-out and stakes in site – Reading planting plan – Procedures in laying-out and staking • Holes preparation for planting			**LO 3. Perform site lay-outing and staking.** 3.1 Lay-out and stake site according to the preference of the rubber growers/farmers. 3.2 Dig holes according to plan.	**Tle_AFARBP9-12PRT-IIIi-j-16**
• Basal fertilizer application • Seedlings distribution on holes. • Plant seedlings			**LO 4. Plant poly-bagged, budded rubber seedling.** 4.1. Apply basal fertilizer according to the result of soil analysis. 4.2. Distribute seedlings on the holes according to plan. 4.3. Plant seedlings based on established farm procedures.	**TLE_AFARBP9-12PRT-IIIj-IVa-d-17**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
• Weed control • Insect Pest prevention and control - kinds of pest and diseases: - Weed - Insect pest - Diseases - Diseases prevention and control - Cover cropping - Intercropping - Fogging/dusting • Drainage maintenance • Branch induction • Pruning • Replanting - FPA guidelines - OSHS			**LO 5. Perform maintenance activities.** 5.1 Perform weeding according to established farm procedures. 5.2 Prevent and control insect pests and diseases as needed. 5.3 Maintain drainage according to standards. 5.4 Conduct branch induction in accordance with established farm practices. 5.5 Perform pruning in accordance with enterprise standard and safety practices. 5.6 Carry-out replanting as needed.	**TLE_AFARBP9-12PRT-IVd-j-18**
LESSON 6: PERFORMING BUDDING OPERATION (PBO)				
• Tools and materials for budding operation - Different tools and materials - Uses and functions of tools - Check defects of tools • Budding knife sharpening - techniques in sharpening budding knife - different sharpening tools • Budding tapes - Techniques in preparing	The learner demonstrates an understanding of underlying theories and principles in performing budding operation.	The learner independently performs budding operation based on enterprise procedure.	**LO 1. Prepare for budding operation.** 1.1 Identify appropriate tools and materials in accordance with the job requirement. 1.2 Sharpen budding knife following prescribed procedure. 1.3 Prepare budding tape in accordance to required size. 1.4 Implement cleanliness during operation. 1.5 Perform conditioning of seedling stock and budstick/budwood in accordance with the established standards.	**TLE_AFARBP9-12PBO-Ia-e-19**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
and cutting budding tapes • Budwood/budstick seedling stocks conditioning - Procedures in conditioning of seedling stock/budwood - Appearance of conditioned seedling stock - Appearance of conditioned budstick/ budwood - -cleanliness during budding operation - Sanitation and hygiene, etc.				
• Selection of budstickood/ bud before cutting - Criteria in selecting bud stick for cutting • Harvest/cut budstick/ budwoods - Techniques in proper harvesting/cutting of bud stick - Techniques in positioning of bud pots in the open bark of the seedling. • Treatment for cut-ends of harvested budsticks/ budwoods • Packaging treated budsticks/budwoods • Transport of packed treated budsticks/ budwoods.			**LO 2. Harvest, handle and transport bud sticks.** 2.1 Select bud stick/ budwood in accordance with the established standard. 2.2 Harvest/cut-budsticks/budwoods in accordance with the established procedures. 2.3 Treat cut-ends of harvested budsticks/ budwoods with melted paraffin wax. 2.4 Pack treated budsticks/budwoods in accordance with the standard practices. 2.5 Transport packed and treated budsticks/ budwoods in accordance with the standard practices.	**TLE_AFARBP9-12PBO-Ie-i-20**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
• Selection of rootstock seedling for budding - Proper extraction of bud patch, ensuring presence of bud eye • Budding/Re-budding Operation - Proper handling of budding knife in doing incision - Technique in tying securely not pressing the bud eye - Technique in knowing the length (cm) of the remaining stem (stock) • Budded rootstock opening			**LO 3. Perform actual budding/rebudding** 3.1 Select seedling rootstocks in accordance with the established standards. 3.2 Perform budding/rebudding operation according to established procedures. 3.3 Open budded rootstock 21 days after budding.	**TLE_AFARBP9-12PBO-Ii-j-IIa-g-21**
• Budded seedling cut back – Cutback techniques • Segregation of cutback seedlings – Importance of segregating cutback – Time involved in segregation • Budded seedlings maintenance – Pruning of side shoots growing from the rootstocks – Control of pests and diseases – Application of fertilizers – Lifting of the polybags – Watering – Weeding – OSHS			**LO 4. Cutback the seedlings.** 4.1 Cutback successfully budded seedlings according to accepted procedures. 4.2 Segregate cutback seedlings 7 days after cutting. 4.3 Maintain cutback budded seedlings according to established farm practices.	**TLE_AFARBP9-12PBO-IIg-j-22**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 7: HARVESTING LATEX (HLX)				
• Identification of tappable trees – Criteria of tappability • Dot application on tappable trees • Mark tappable tree – Marking standards for budded trees – Marking standards for seedling trees	The learner demonstrates an understanding of underlying theories and principles in harvesting latex.	The learner independently harvests latex based on company's standards.	**LO 1. Identify tappable trees.** 1.1 Identify tappable trees according to standard criteria. 1.2 Place dot on tappable trees in accordance with the standard. 1.3 Mark trees in accordance with the marking standards.	**TLE_AFARBP9-12HLX-IIIa-e-23**
• Preparation and inspection of tapping tools and materials – Different tapping tools and materials – Inspection of tapping tools and materials – Sharpening techniques of tapping knife – Importance of sharpening of tapping knifes • Preparation of tapping panel -Procedure in opening tapping panel • Installation of tapping materials. – Installation techniques of tapping materials			**LO 2. Open the tapping panel.** 2.1 Prepare and inspect tools and materials for tapping. 2.2 Open tapping panel based on standard procedures. 2.3 Install tapping materials in accordance with the standards and requirements.	**TLE_AFARBP9-12HLX-IIIf-j-24**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
• Preparing tools and materials for collecting latex – Different tools and materials for tapping and collecting latex/cuplumps – Checking tools and materials • Rubber tapping – Procedure in tapping • Latex and cuplump/scrap collection • Latex Storage • Coagulant Application in latex – Purpose of coagulants – Standard coagulants solution set – Procedure/process -OSHS -Environmental rules and regulations			**LO 3. Perform tapping and collection of latex or cuplumps/scrap.** 3.1 Prepare tools and materials in collecting latex. 3.2 Perform tapping in accordance with the standards. 3.3 Prepare coagulants/anti-coagulant in accordance with prescribed standards. 3.4 Collect latex and cuplump/scrap according to established farm standards. 3.5 Store Latex and cuplump/scrap according to established farm standards. Apply coagulants in latex or cuplump or coagulum production.	**TLE_AFARBP9-12HLX-IVa-j-25**

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RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	**EQUIPMENT**	**MATERIALS**		
• Soil sampler • Sprayers • Digging tools • Pruning tools • Tools and farm implements use in activities such as clearing and plowing sites, digging, among others • Budding knife • Sharpening tool • Tapping knife • Spout • Cup holder • Collecting cup • Template • Collecting pail/bucket/ container • Balancer • Scoop • Bolo • Calculator • Sprinklers	• Training facilities (lecture room, workshop/laboratory area, chairs and tables, computer, etc.) • Simulated workplace (nursery, greenhouse, rubber plantations, farm/field, among others) with facilities including practice trees • Pruning equipment	• Seeds and clones • Seedling stock and budsticks/budwoods • Polybags • Fertilizers • Insecticides/pesticides/ herbicides • Layout plan • Stakes • Budding tape • Clean rag • Supplies and materials in harvesting • Brush for upward tapping • Coagulants/Anti-coagulant • Wire Spring • String • Propagating media • Growing media • Seed box • Detergent soap • Broom stick	• Discussion • Lecture • Demonstration • Simulation • Hands on • SIT/OJT	• Demonstration and questioning • Direct observation with questioning • Written examination • Oral questioning or interview • Third party report

GLOSSARY

1.	Budder	-	One that performs budding operations
2.	Budding	-	As a Form of asexual reproduction in which a new organism grows on another one. The new organism remains attached as it grows, separating from the parent organism only when it is mature. Since the reproduction is asexual, the newly created organism is a clone and is genetically identical to the parent organism. A new organism grows from an outgrowth or bud on the parent.
3.	Fumigant	-	Chemical compound which acts in the gaseous state to destroy insects and their larvae.
4.	Fumigation	-	Process of treating stored products with insecticides/pesticides and the like in fumes or vapor form.
5.	Insect pest	-	Destructive or harmful insect.
6.	Irrigation	-	Method of supplying water to sustain plant growth
7.	Latex	-	As found in nature is a milky fluid found in 10% of all flowering plants (angiosperms). It is a complex emulsion consisting of proteins, alkaloids, starches, sugars, oils, tannins, resins, and gums that coagulates on exposure to air. It is usually exuded after tissue injury. In most plants, latex is white, but some have yellow, orange, or scarlet latex.
8.	Standard	-	Set of criteria and specifications of quality determining the grades, described as product characteristics such as maturity, color, cleanliness, shape, free from decay and blemishes and uniformity of size.
9.	Tappers	-	Performs tapping job
10.	Tapping (Rubber)	-	Process by which the sap (latex) is collected from a rubber tree. An incision is made in the tree's bark, which cuts through the planting cycle to optimise the latex yield.
11.	Transplants	-	Seedlings produced for transplanting

K TO 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
AGRI-FISHERY ARTS – RUBBER PRODUCTION NC II
(320 hours)

CODE BOOK LEGEND
Sample: **TLE_AFARBP9-12ASM-Ia-1**

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_ Agri-Fishery Arts Rubber Production NC II	**TLE_AFA RBP 9-12**
	Grade Level	9 to 12	
Uppercase Letter/s	Domain/ Content/ Component/ Topic	Applying Safety Measures in Farm Operations	**ASM**
			-
Roman Numeral **Zero if no specific Quarter*	Quarter	First Quarter	**I**
Lower case letter/s **Put an en-dash (-) in between letters to indicate more than a specific week*	Week	Week one	**a**
			-
Arabic Number	Competency	Determine areas of concern for safety measures.	**1**

DOMAIN / COMPONENT	CODE
Applying Safety Measures in Farm Operations	ASM
Using Farm Tools and Equipment	UFT
Performing Basic Estimation and Calculation	PEC
Establishing Rubber Budwood and Seedlings Nursery	ERB
Planting Rubber Trees/Rubber Seedlings	PRT
Performing Budding Operation	PBO
Harvesting Latex	HLX

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 (updated as of May 2016)**

GRADE 7/8 (EXPLORATORY)	GRADES 9-12		
EXPLORATORY	Agricultural Crops Production (NC I) 4 sems		
	Agricultural Crops Production (NC II)+ updated based on TESDA Training Regulations published on December 28, 2013		8 sems
	*Agricultural Crops Production (NC III)		8 sems
	Landscape Installation and Maintenance (NC II) 4 sems	Organic Agriculture (NC II)	4 sems
	Pest Management (NC II) 4 sems	Rice Machinery Operation (NC II)	4 sems
	Animal Production (Swine) (NC II)+ updated based on TESDA Training Regulations published on December 28, 2013 4 sems	*Artificial Insemination: Swine (NC II) 2 sems	*Slaughtering Operations (Hog/Swine/Pig) (NC II) 2 sems
	Animal Production (Large Ruminants) (NC II)+ updated based on TESDA Training Regulations published on December 28, 2013 4 sems	*Artificial Insemination: Large Ruminants (NC II) 2 sems	Fish Wharf Operation 2 sems
	Animal Production (Poultry-Chicken) (NC II)+ updated based on TESDA Training Regulations published on December 28, 2013 4 sems	*Animal Health Care Management NC III	4 sems
	Rubber Production (NC II) 4 sems	Rubber Processing (NC II)	4 sems
	*Horticulture (NC III)		8 sems
	Food Processing (NC II)		8 sems
	Fish Capture (NC II)		8 sems
	Aquaculture (NC II)		8 sems
	Fish-Products Packaging (NC II) 4 sems	Fishing Gear Repair and Maintenance (NC III)	4 sems

* Please note that these subjects have pre-requisites mentioned in the CG.
\+ CG updated based on new Training Regulations of TESDA.
▨ Other specializations with no prerequisites may be taken up during these semesters.

****This is just a <u>sample</u>. Schools make their own curriculum maps considering the specializations to be offered. Subjects may be taken up at any point during Grades 9-12.**

Reference:

Technical Education and Skills Development Authority-Qualification Standards Office. *Training Regulations for Rubber Production NC II.* Taguig City, Philippines: TESDA, 2012.