

K TO 12 BASIC EDUCATION CURRICULUM
JUNIOR HIGH SCHOOL TECHNOLOGY AND LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL LIVELIHOOD TRACK
INFORMATION AND COMMUNICATIONS TECHNOLOGY - TELECOM OSP AND SUBSCRIBER LINE INSTALLATION (COPPER CABLE/POTS AND DSL) 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)		
2.	Agricultural Crops Production (NC II) ⁺⁺	480 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 (NC II)
5.	Animal Production (NC II) ⁺ <i>When updated, this CG will become the following:</i> 1. <i>Animal Production (Poultry-Chicken) (NC II);</i> 2. <i>Animal Production (Ruminants) (NC II); and</i> 3. <i>Animal Production (Swine) (NC II)</i>	480 hours	
6.	Aquaculture (NC II)	640 hours	
7.	Artificial Insemination (Ruminants) (NC II)	160 hours	Animal Production (NC II)
8.	Artificial Insemination (Swine) (NC II)	160 hours	Animal Production (NC II)
9.	Agricultural Crops Production (NC I)	320 hours	
10.	Fish Capture (NC II) ⁺⁺	640 hours	
11.	Fishing Gear Repair and Maintenance (NC III)	320 hours	
12.	Fish-Products Packaging (NC II)	320 hours	
13.	Fish Wharf Operation (NC I)	160 hours	
14.	Food (Fish) Processing (NC II)	640 hours	
15.	Horticulture (NC II) ⁺	640 hours	
16.	Horticulture (NC III)	640 hours	Horticulture (NC II)
17.	Landscape Installation and Maintenance (NC II)	320 hours	Agricultural Crops Production (NC I)
18.	Organic Agriculture (NC II)	320 hours	Agricultural Crops Production (NC I)
19.	Pest Management (NC II)	320 hours	Agricultural Crops Production (NC I)
20.	Rice Machinery Operation (NC II)	320 hours	Agricultural Crops Production (NC I)
21.	Rubber Processing (NC II)	320 hours	
22.	Rubber Production (NC II)	320 hours	
23.	Slaughtering Operation (NC II)	160 hours	Animal Production (NC II)

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HOME ECONOMICS

	Specialization	Number of Hours	Pre-requisite
1.	Attractions and Theme Parks (NC II)	160 hours	
2.	Barbering (NC II)	320 hours	
3.	Bartending (NC II)	320 hours	
4.	Beauty/Nail Care (NC II)	160 hours	40 hours of the subject during exploratory Grade 7/8
5.	Bread and Pastry Production (NC II)	160 hours	
6.	Caregiving (NC II)	640 hours	40 hours of the subject during exploratory Grade 7/8
7.	Commercial Cooking (NC III)	320 hours	Cookery (NC II)
8.	Cookery (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
9.	Dressmaking (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
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) ⁺	160 hours	
13.	Front Office Services (NC II)	160 hours	40 hours of the subject during exploratory Grade 7/8
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) ⁺	160 hours	
21.	Local Guiding Services (NC II)	160 hours	
22.	Tailoring (NC II)	320 hours	40 hours of the subject during exploratory Grade 7/8
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) ⁺	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.	Consumer Electronics Servicing (NC II) ⁺	640 hours	
7.	Domestic Refrigeration and Airconditioning (DOMRAC) Servicing (NC II)	640 hours	
8.	Driving (NC II)	160 hours	
9.	Electrical Installation and Maintenance (NC II)	640 hours	
10.	Electric Power Distribution Line Construction (NC II)	320 hours	Electrical Installation and Maintenance (NC II)
11.	Electronic Products Assembly and Servicing (NC II) ⁺⁺ <i>(CG under construction based on Consumer Electronics Servicing (NC II) CG)</i>	640 hours	
12.	Furniture Making (Finishing) (NC II) ⁺	480 hours	
13.	Instrumentation and Control Servicing (NC II)	320 hours	Electronic Products Assembly and Servicing (EPAS) (NC II)
14.	Gas Metal Arc Welding (GMAW) (NC II)	320 hours	Shielded Metal Arc Welding (SMAW) (NC II)
15.	Gas Tungsten Arc Welding (GTAW) (NC II)	320 hours	Shielded Metal Arc Welding (GMAW) (NC II)
16.	Machining (NC I) ⁺⁺	640 hours	
17.	Machining (NC II)	640 hours	Machining (NC I)
18.	Masonry (NC II)	320 hours	
19.	Mechatronics Servicing (NC II)	320 hours	Consumer Electronics Servicing (NC II)
20.	Motorcycle/Small Engine Servicing (NC II)	320 hours	
21.	Plumbing (NC I)	320 hours	
22.	Plumbing (NC II)	320 hours	Plumbing (NC I)
23.	Refrigeration and Air-Conditioning (Packaged Air-Conditioning Unit [PACU]/Commercial Refrigeration Equipment [CRE]) Servicing (NC III)	640 hours	Domestic Refrigeration and Airconditioning (DOMRAC) Servicing (NC II)
24.	Shielded Metal Arc Welding (NC I)	320 hours	
25.	Shielded Metal Arc Welding (NC II)	320 hours	Shielded Metal Arc Welding (NC I)
26.	Tile Setting (NC II)	320 hours	
27.	Transmission Line Installation and Maintenance (NC II)	640 hours	Electrical Installation and Maintenance (NC II)

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INFORMATION, COMMUNICATIONS AND TECHNOLOGY (ICT)

	Specialization	Number of Hours	Pre-requisite
1.	Animation (NC II)	320 hours	
2.	Broadband Installation (Fixed Wireless Systems) (NC II)	160 hours	1. Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II) 2. Telecom OSP Installation (Fiber Optic Cable) (NC II)
3.	Computer Hardware Servicing (NC II) ⁺	320 hours	
4.	Computer Programming (NC IV) ⁺ <i>When updated, this CG will become the following:</i> 1. Programming (.net Technology) (NC II) ⁺⁺ 2. Programming (Java) (NC II) ⁺⁺ 3. Programming (Oracle Database) (NC II) ⁺⁺	320 hours	
5.	Computer System Servicing (NC II) ⁺⁺ <i>(CG under construction based on Computer Hardware Servicing (NC II) CG)</i>	320 hours	
6.	Contact Center Services (NC II)	320 hours	
7.	Illustration (NC II)	320 hours	
8.	Medical Transcription (NC II)	320 hours	
9.	Technical Drafting (NC II)	320 hours	
10.	Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)	320 hours	Computer Hardware Servicing (NC II)
11.	Telecom OSP Installation (Fiber Optic Cable) (NC II)	160 hours	Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)

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(320 hours)

Prerequisite: Computer System Servicing NC II

Course Description:

This is a specialization course that leads to a Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) National Certificate Level II (NC II). It discusses six (6) core competencies that a student ought to possess, namely: 1) installing pole hardware, cable terminal, line wire and accessories, 2) performing main cable installation, 3) splicing/joining cable terminal to main aerial and/or underground copper cable splice, 4) performing basic troubleshooting and correction of cable fault and error, 5) installing POTS subscriber line, and 6) installing digital subscriber line (DSL).

The preliminaries of this specialization course include the following: 1) discussion of the relevance of the course, 2) explanation of key concepts of common competencies, 3) explanation of core competencies relative to the course, and 4) exploration of career opportunities.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<p>Introduction</p> <ol style="list-style-type: none"> 1. Relevance of the course 2. Concepts and core competencies in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) 3. Career opportunities 	<p>The learner demonstrates an understanding of the key concepts, underlying principles and core competencies in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL).</p>	<p>The learner independently creates/provides quality and marketable product and/or service in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL), as prescribed by TESDA Training Regulations.</p>	<ol style="list-style-type: none"> 1. Discuss the relevance of the course. 2. Explain key concepts of common competencies. 3. Explain core competencies of Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL). 4. Explore job opportunities for Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) as a career. 	
PERSONAL ENTREPRENEURIAL COMPETENCIES(PECS)				
<ol style="list-style-type: none"> 1. Assessment of Personal Competencies and Skills (PECS) vis-à-vis a practicing entrepreneur/employee in locality/town <ol style="list-style-type: none"> 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 	<p>The learner demonstrates an understanding of one's PECS in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL).</p>	<p>The learner recognizes his/her PECS and prepares an activity plan that aligns with that of a practitioner/entrepreneur in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL).</p>	<p>LO 1. Recognize PECS needed in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL).</p> <ol style="list-style-type: none"> 1.1 Assess one's PECS: characteristics, attributes, lifestyle, skills, and traits. 1.2 Assess practitioner's PECS: characteristics, attributes, lifestyle, skills, and traits. 1.3 Compare one's PECS with that of a practitioner/entrepreneur. 1.4 Align one's PECS with that of a practitioner/entrepreneur. 	TLE_PECS9-12-00-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
2. Analysis of PECS in relation to a practitioner 3. Alignment, strengthening and developing one's PECS based on the result.				
ENVIRONMENT AND MARKET (EM)				
1. Market (locality/town) 2. Key concepts of market 3. Players in the market (Competitors) 4. Products and services available in the market.	The learner demonstrates an understanding of environment and market in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) in one's locality/town.	The learner independently creates a business vicinity map reflective of potential market in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) in a locality/town.	LO 1. Recognize and understand the market in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL). 1.1 Identify the players/competitors within the town. 1.2 Identify the different products/services available in the market.	TLE_EM9-12-00-1
1. Market (Customer) 2. Key concepts of identifying and understanding the consumer 3. Consumer Analysis through: 3.1 Observation 3.2 Interviews 3.3 Focus Group Discussion (FGD) 3.4 Survey			LO 2. Recognize the potential customer/ market in Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL). 2.1 Identify the profile of potential customers. 2.2 Identify the customer's needs and wants through consumer analysis. 2.3 Conduct consumer/market analysis.	TLE_EM9-12-00-2
CORE COMPETENCIES				
LESSON 1: INSTALLING POLE HARDWARE, CABLE TERMINAL, LINE WIRE AND ACCESSORIES (IPH)				
<ul style="list-style-type: none"> Preparation of tools, materials and personal protective equipment (PPE) - Identification of tools, 	The learner demonstrates an understanding of the principles and concepts in installing pole hardware, cable terminal, line wire and accessories.	The learner independently performs installation of pole hardware, cable terminal, line wire and accessories based on TESDA Training Regulation.	LO 1. Prepare for pole hardware, cable terminal and line wire installation. 1.1 Prepare necessary tools, materials and personal protective equipment (PPE) in line with job requirements.	TLE_ICTTSL9-12IPH1a-e-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> materials, equipment and PPE's • Outside plant construction principles and standards <ul style="list-style-type: none"> - Plain Old Telephone System (POTS) - Digital Subscriber Line (DSL) • Outside plant protection concept • Relevant authorities in performing a task • Site/vicinity mapping • Joint pole agreement • Installation constraints • Safety and hazards in performing the task 			<ul style="list-style-type: none"> 1.2 Obtain information on proposed locations and necessary approvals from relevant authorities. 1.3 Clear and prepare site to provide unrestricted access for installation works in accordance with joint pole agreement. 1.4 Identify installation constraints and safety hazards and determine suitable action. 	
<ul style="list-style-type: none"> • Applicable rules and regulations as per relevant authorities • Fixing device installation procedure <ul style="list-style-type: none"> - Cabling on wood pole - Messenger & Helixes - Aerial Cable -Lashing • Pole identifier marks • Groundings and bonding wires • Anchors and Guy-wire assembly • Installation and design amendments report 			<p>LO 2. Perform pole hardware, cable terminal, line wire and accessories installation.</p> <ul style="list-style-type: none"> 2.1 Make installation site safe through erection of necessary barriers in accordance with standard practices and applicable rules and regulations. 2.2 Install fixing structures on pole securely in accordance with manufacturer's specifications and joint pole agreement (JPA) and/or enterprise standards. 2.3 Install fixing devices where the support is other than a pole in accordance with the JPA and/or enterprise standards. 2.4 Place pole identifier marks on installed poles for identification. 2.5 Install ground and bond grounding wires to messenger wire of copper cable in accordance with the industry construction 	<p>TLE_ICTTSL9-12IPH-IIif-j-2</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			standards. 2.6 Install guy-wire assembly and tensioned the required specifications. 2.7 Report problems encountered as per standard operating procedures (SOP). 2.8 Report/document installation and design amendments in accordance with job requirements.	
LESSON 2: PERFORMING MAIN CABLE INSTALLATION (MCI)				
<ul style="list-style-type: none"> • Personal protective equipment • Cabling installation procedures • Cable Map, plans and route <ul style="list-style-type: none"> - Interpreting plans and symbols • Cable and site preparation <ul style="list-style-type: none"> - Suitable methods in overcoming obstructions • Pole Inspection • Wire Line Specifications 	The learner demonstrates an understanding of the principles and concepts in performing main cable installation.	The learners independently perform main cable installation based on TESDA Training Regulation.	LO1. Prepare for cable jointing and installation. 1.1 Prepare necessary tools, equipment, materials and personal protective equipment (PPE) in line with job requirements. 1.2 Identify cable preparation and installation requirements and constraints based on plan and site inspection as per job requirements. 1.3 Set up cable preparation and installation equipment in accordance with manufacturer's and job requirements. 1.4 Make site safe and secure for cable installation. 1.5 Select suitable protective clothing and use required safety devices. 1.6 Assess support structure as safe for normal working conditions. 1.7 Check cable route for obstructions and vertical clearances from street level and make clear using suitable methods and in coordination with authorities concerned.	TLE_ICTTSL9-12MCI-IIa-e-3
<ul style="list-style-type: none"> • Pole climbing & pole climbing rescue procedures • Portable Ladder Safety • Safety precautions in making binding cable 			LO2. Install main cable. 2.1 Identify safety requirements for pole climbing and the use of portable ladder. 2.2 Obtain tools, equipment, clothing and safety requirements for the sheath opening, bonding, grounding and securing bunch	TLE_ICTTSL9-12MCI-IIf-j-4

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Messenger Installation • Cable loop <ul style="list-style-type: none"> - Proper handling of copper cables • Cable installation • Proper handling, use and maintenance of tools and equipment. <ul style="list-style-type: none"> - Lashing wire • Bending radius tolerance <ul style="list-style-type: none"> - Cable binding standard procedures • Cable pair identification and splicing • Installation procedure <ul style="list-style-type: none"> - Sheath opening of the cable terminal stub - Main cable • Grounding installation 			<p>end.</p> <p>2.3 Install sheath opening of the cable terminal stub and main cable, bonding and grounding as required per outside plant standards.</p> <p>2.4 Bind and secure cables in accordance with standard installation procedures.</p> <p>2.5 Ensure loop and bending radius tolerance for cable materials at all times in accordance with outside plant standards.</p>	

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 3: SPLICING /JOINING CABLE TERMINAL TO MAIN AERIAL AND/OR UNDERGROUND COPPER CABLE SPLICE (SCT)				
<ul style="list-style-type: none"> • Safety precautions in splicing and joining main cables pairs for aerial copper cable work • Identification of cable pairs <ul style="list-style-type: none"> - Twisting technique - Crimping/connectorization • Cable pairs twisting techniques • Group binders and cable segregations • Cable pairs crimping/connectorization techniques • Preparing accomplishment reports 	<p>The learner demonstrates an understanding of the principles and concepts in performing splicing/joining cable terminal to main aerial and/or underground copper cable splice.</p>	<p>The learners independently perform splicing/joining cable terminal to main aerial and/or underground copper cable splice based on TESDA Training Regulation.</p>	<p>LO 1. Splice and join cable terminal and main cable pairs for aerial copper cable works.</p> <ol style="list-style-type: none"> 1.1 Identify and prepare necessary tools, equipment, materials and personal protective equipment (PPE) in line with job requirements. 1.2 Perform cable pairs identification, twisting techniques and crimping/connectorization in accordance with manufacturer's specifications and as per design plan/assignment. 1.3 Perform group binders and segregation of cable pairs as per job requirements and assignment. 1.4 Report/document accomplishment reports accurately in accordance with job requirements. 	<p>TLE_ICTTSL9-12SCT-IIIa-e-5</p>
<ul style="list-style-type: none"> • Personal protective equipment for splicing/joining straight/branch • Cable pairs identification • Types of splice and joints for straight /branch cable pairs for underground copper cable work • Reporting and documentation of accomplishment reports in accordance with job requirements • Manhole and cable preparation 			<p>LO 2. Splice and join straight and branch cable pairs for underground copper cable works.</p> <ol style="list-style-type: none"> 2.1 Identify and prepare necessary tools, equipment, materials and personal protective equipment (PPE) in line with job requirements. 2.2 Perform manhole and cable preparation for splicing/joining of straight/branch splices in line with job requirements. 2.3 Perform cable pairs identification, twisting techniques and crimping/connectorization in accordance with manufacturer's specifications and as per design plan/assignment. 2.4 Perform group binders and segregation of cable pairs as per job requirements and 	<p>TLE_ICTTSL9-12SCT-IIIIf-j-6</p>

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			assignment. 2.5 Report/Document accomplishment reports accurately in accordance with job requirements.	
<ul style="list-style-type: none"> • Cable closure • Problems encountered in installing cable closure • Flush testing procedures 			LO 3. Install cable closure. 3.1 Apply cable closure to spliced cable pairs in accordance with product specification. 3.2 Report problems encountered as per standard operating procedures (SOP). 3.3 Perform flush testing of completed closure according to job requirements and SOP to prevent water and moisture entry.	TLE_ICTTSL9-12SCT-IVa-e-7
<ul style="list-style-type: none"> • Cable support installation <ul style="list-style-type: none"> - Messenger wire - Cable rack • Job completion report 			LO 4. Install cable support. 4.1 Attach spliced cable to messenger wire/cable rack for support in line with job requirements and product specifications 4.2 Prepare job completion report in line with enterprise procedures.	TLE_ICTTSL9-12SCT-IVf-j-8
LESSON 4: PERFORMING BASIC TROUBLESHOOTING AND CORRECTION OF CABLE FAULT AND ERROR (BTC)				
<ul style="list-style-type: none"> • Interpretation of documents in accordance with enterprise procedures • Cable pair preparation and identification • Prepare Materials, Tools and equipment needed for cable fault error troubleshooting 	The learner demonstrates an understanding of the principles and concepts in performing basic troubleshooting and correction of cable fault and error.	The learner independently performs basic troubleshooting and correction of cable fault and error based on TESDA Training Regulation.	LO 1. Prepare for cable fault and error troubleshooting. 1.1 Acquire and interpret documentation in accordance with enterprise procedures. 1.2 Identify and prepare necessary tools, equipment, materials and personal protective equipment (PPE) in line with job requirements. 1.3 Perform cable pair's identification and preparation in accordance with job requirements and assignments.	TLE_ICTTSL9-12BTC-Ia-e-9

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Common cable faults and errors • Testing of cable faults and errors • Corrective actions for cable faults and error • Accomplishment report preparation 			<p>LO 2. Test and correct cable faults and errors.</p> <p>2.1 Perform identification and interpretation of cable faults and errors as per job requirements.</p> <p>2.2 Apply corrective action in line with enterprise procedure.</p> <p>2.3 Prepare accomplishment report according to enterprise policy.</p>	<p>TLE_ICTTSL9-12BTC-If-j-10</p>
<ul style="list-style-type: none"> • Inventory of tools, materials and equipment • Government and environmental requirements in waste disposal • Completion and approval report preparation 			<p>LO 3. Wrap up job.</p> <p>3.1 Gather and store tools, equipment and materials back to the service vehicle.</p> <p>3.2 Remove and dispose of waste materials from work place in accordance with government regulations and environmental requirements.</p> <p>3.3 Restore changes made the work area during installation, splicing/joining and re-splicing to complete/clear for acceptance and approval.</p>	<p>TLE_ICTTSL9-12BTC-IIa-c-11</p>
LESSON 5: INSTALLING POTS SUBSCRIBER LINE (IPS)				
<ul style="list-style-type: none"> • Personal protective equipment • Service order • Site/Area mapping • Installation constraint and safety hazards • Site preparation 	<p>The learner demonstrates an understanding of the principles and concepts in installing POTS subscriber line.</p>	<p>The learner independently performs installing POTS subscriber line based on TESDA Training Regulation.</p>	<p>LO 1. Prepare distribution point to customer premises installation.</p> <p>1.1 Prepare necessary tools, materials and personal protective equipment (PPE) in line with job requirements.</p> <p>1.2 Identify information on proposed installation locations based on service order.</p> <p>1.3 Clear and prepare site to provide unrestricted access for installation work in accordance with joint pole agreement.</p> <p>1.4 Identify installation constraints and safety hazards and suitable action determined.</p>	<p>TLE_ICTTSL9-12IPS-IIId-f-12</p>

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INFORMATION AND COMMUNICATIONS TECHNOLOGY - TELECOM OSP AND SUBSCRIBER LINE INSTALLATION (COPPER CABLE/POTS AND DSL) NC II
(320 hours)

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Drop wire and Support • House attachment • Grounding elements • Problems/Hazards in making layout and installation of drop wire and house attachment • Distribution point terminal • Terminate drop wire • Drop wire layout/installation 			<p>LO 2. Layout and install drop wire and house attachment.</p> <p>2.1 Identify distribution point terminal in line with service order.</p> <p>2.2 Terminate drop wire in line with service order.</p> <p>2.3 Perform drop wire layout installation from distribution point to station protector in line with standard installation procedure.</p> <p>2.4 Install and secure house attachment permanently to support drop wire in accordance with standard installation procedure.</p> <p>2.5 Install grounding elements in accordance with established standards.</p> <p>2.6 Report problems encountered in line with standard operating procedures (SOP).</p>	<p>TLE_ICTTSL9-12IPS-IIg-j-13</p>
<ul style="list-style-type: none"> • Drop wire and support • Grounding elements • Problems/Hazards in making layout and installation of drop wire and house attachment • Installing house attachment 			<p>LO 3. Install telephone set and accessories.</p> <p>3.1 Install connecting block (CBK) in line with installation manual.</p> <p>3.2 Terminate and connect jacketed wire and connected to CBK based on installation manual.</p> <p>3.3 Install telephone instrument in line with installation manual.</p> <p>3.4 Report problems encountered as per standard operating procedures (SOP).</p> <p>3.5 Document properly the installation according to SOP.</p>	<p>TLE_ICTTSL9-12IPS-IIIa-e-14</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Inventory of tools, materials and equipment • Government and environmental requirements in waste disposal • Completion and approval report preparation 			<p>LO 4. Wrap up job.</p> <p>4.1 Gather and store tools, equipment and materials back to the service vehicle.</p> <p>4.2 Remove and dispose of waste materials from work place in accordance with government regulations and environmental requirements.</p> <p>4.3 Restore changes made the work area during installation, disconnection and reconnection to the customer's satisfaction.</p>	<p>TLE_ICTTSL9-12IPS-IIIIf-j-15</p>
LESSON 6: INSTALLING DIGITAL SUBSCRIBER LINE –DSL (IDS)				
<ul style="list-style-type: none"> • Unit's specification checking • DSL modem • Installation constraint and safety hazards • Preparation of tools, equipment, materials and PPE's for DSL 	<p>The learner demonstrates an understanding of the principles and concepts in installing Digital Subscriber Line (DSL).</p>	<p>The learners independently perform installing Digital Subscriber Line (DSL) based on TESDA Training Regulation.</p>	<p>LO1.Prepare for DSL modem installation.</p> <p>1.1 Check subscriber's unit specification in accordance with system requirements.</p> <p>1.2 Identify and prepare necessary tools, equipment, materials and personal protective equipment (PPE) in line with job requirements.</p>	<p>TLE_ICTTSL9-12IDS-IVa-d-16</p>
<ul style="list-style-type: none"> • OHSC • Working with voice data splitter • DSL modem installation and configuration • Internet connection and testing procedure • Report preparation 			<p>LO 2.Perform installation of DSL modem.</p> <p>2.1 Follow occupational health & safety (OH&S) policies and procedures based on safety requirements.</p> <p>2.2 Connect voice-data splitter in line with installation manual.</p> <p>2.3 Install and configure modem in line with modem installation manual.</p> <p>2.4 Test Internet connection in line with enterprise procedure.</p> <p>2.5 Document installation report according to SOP.</p> <p>2.6 Demonstrate interpersonal skills in dealing with subscriber's concerns in line with enterprise procedures</p>	<p>TLE_ICTTSL9-12IDS-IVd-g-17</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> • Inventory of tools, materials and equipment • Government and environmental requirements in waste disposal • Completion and approval of report preparation 			<p>LO 3.Wrap up job.</p> <p>3.1 Gather and store tools, equipment and materials back to the service vehicle.</p> <p>3.2 Remove and dispose of waste materials from work place in accordance with environmental health & safety requirements.</p>	<p>TLE_ICTTSL9-12IDS-IVh-j-18</p>

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RESOURCES			METHODOLOGY	ASSESSMENT METHOD
TOOLS	EQUIPMENT	MATERIALS		
<ul style="list-style-type: none"> • Set of wrenches • Set of screwdrivers • Torque wrench • F-open wrench • Bolt cutter • Cable slitter • Electrician scissors • Staple gun • Technician’s knife • Cable prep tool • Set of hammer • Set of pliers • Boring tools • Blow torch • Poly knife • Hacksaw • Cable tensioner/ratchet/ coping jack • Crimping/ compression tool • Cable guide • Aerial handline • Set of ropes • Tape linen/steel tape • Manhole hook • Manhole Ladder 10 ft • Extension Ladder 20ft • Fixing brackets/ clamps • lay-up stick / cable lifter • Adjustable wrench • Extension ladders (24 ft. length) • Drill/electric drill (w/ bits of various sizes) • Gimlet 	<ul style="list-style-type: none"> • Line extender* • Service vehicle* • Lineman boom truck* • Cable trailer* • Reel stand* • Lashing machine* • Manhole pump • Power supply • Trunk amplifier • TV set • LCD • Karaoke • Microphone <p>Personal Protective Equipment (PPE)</p> <ul style="list-style-type: none"> • Safety shoes • Nody belt & strap • Safety goggles • Tool pouch/holster • Safety cones/other Collapsible signs • Set gloves • Hard hat/ helmet • Rain coat • Rubber boots 	<ul style="list-style-type: none"> • Messengered cable • Set of suspension clamps • Pole extension arm • Pressure testing valve • Pole insulator • Ground/guying insulator • Pole tag • Cable tag • Sets of washer, bolts and nuts, machine bolts • Machine bolts – straight, Thimble-eye and bent types • Stainless lashing wire • Lashing wire clamps • Standard rope • Color coded marked tape • Extension arm • Closure kits • Grounding wire (gauge 12, stranded) • Grounding rod (1/4’ by 4’ with clamp) • Cable clamps • Screw hooks • Lag screws • UY-Connectors • Sidewalk guy fixture • Nonding clamp • Anchor and grounding rods • Cable support • Cable spacer • Adhesive tape • Strand clamps • Soap • Cable tie 	<ul style="list-style-type: none"> • School-based • Dual Training System • Apprenticeship • Industry Immersion 	<ul style="list-style-type: none"> • Observation in workplace • Demonstration • Oral questioning

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GLOSSARY

1. Established procedures - formal arrangements of an organization, enterprise or statutory authority of how work is to be done
2. Flash testing - air pressure testing to prevent water/moisture entry
3. Hazardous materials - flammable gases and vapors and combustible dusts
4. Head-end - the main site at which all the signals from the various program sources are received, assembled, processed and combined for transmission through the distribution network. It is the originating point for all services carried on a cable television system
5. Line extender amplifier - extends further the feeder line from the trunk bridge
6. Modifications - make changes to the physical parameters or operational function of a device, component or piece of equipment or apparatus
7. Modem - an electronic device that converts digital data into analog (modulated-wave) signals suitable for transmission over analog telecommunications circuits (e.g., traditional phone lines) and demodulates received analog signals to recover the digital data transmitted. The "modulator/demodulator" thus makes it possible for existing communications channels to support a variety of digital communications, including e-mail, Internet access, and fax transmissions
8. Notification (notified) - includes verbal, written, electronic or recorded information at completion of work which may be required to be completed in accordance with established procedures
9. OH&S policies and procedures - arrangements of an organization or enterprise to meet their legal and ethical obligations of ensuring the work place is safe and without risk to health
10. Outside Plant (OSP) - a part of communication network system that provides for the distribution voice and data signals from the head-end to the paying subscribers
11. POTS - Plain Old Telephone System
12. Requirements - that to which equipment and procedures and their outcomes must conform and includes statutory obligations and regulations and standards called-up by legislation or regulations
13. Servicing - undertaking of routine inspection, repair and maintenance of circuits, systems or apparatus as well as maintaining, fault finding and repair of equipment, plant and machinery
14. Splicing - the act or process of creating a physical connection between two separate pieces of optical fiber. Optical fibers should only be spliced by a technician who possesses the required skills and interconnection technology
15. Splitter - a passive device used to divide the power equally into two paths
16. Standards - technical documents, which set out specifications and other criteria for equipment, materials, and methods to ensure that consistently perform as intended
17. Subscriber - a person who pays a fee for cable services
18. Subscriber terminal - the cable television system terminal to which a subscriber's equipment is connected
19. Supervised Industry Training - similar to on-the-job training an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations
20. System - group or combination of inter-related, inter-dependent or interlocking elements forming a collective entity. It includes circuits, apparatus, equipment and the like
21. Telecom - refers to telecommunication the process of transmitting information to a receiver by means of electric current or pulses of light
22. Termination - the act by means of which an electrical connection to an apparatus is established; specifically a prepared joint or connection between a cable, cord or conductor and a point in an electrical circuit such as a terminal or connection point. Such terminations include soldering, crimping, clamping, wire wrapping, insulation piercing/compression
23. Testing devices - devices and instruments used to ensure that safety requirements and operational functions are met, and to diagnose faults in

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24. Wiring systems
- apparatus, circuits or systems.
 - permitted cables, enclosures, supports and accessories for power, measurement, control or communications purposes

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CODE BOOK LEGEND

Sample: **TLE_ICTTSL9-12IPH-Ia-e-1**

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_ Information and Communications Technology Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) NC II	TLE_ICT TSL 9-12
	Grade Level	9 to 12	
Uppercase Letter/s	Domain/ Content/ Component/ Topic	Installing Pole hardware, Cable Terminal, Line Wire and Accessories	IPH
			-
Roman Numeral <i>*Zero if no specific Quarter</i>	Quarter	First Quarter	I
Lower case letter/s <i>*Put an en-dash (-) in between letters to indicate more than a specific week</i>	Week	Week one to five	a-e
			-
Arabic Number	Competency	Prepare for pole hardware, cable terminal and line wire installation.	1

DOMAIN / COMPONENT	CODE
Installing Pole Hardware, Cable Terminal, Line Wire and Accessories	IPH
Performing Main Cable Installation	MCI
Splicing/Joining Cable Terminal to Main Aerial and/or Underground Copper Cable Splice	SCT
Performing Basic Troubleshooting and Correction of Cable Fault and Error	BTC
Installing POTS Subscriber Line	IPS
Installing Digital Subscriber Line -DSL	IDS

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 ICT specialization and those that have pre-requisites. Curriculum Maps may be modified according to specializations offered by a school.

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SAMPLE ICT CURRICULUM MAP (as of November 2015)**

Grade 7/8 (EXPLORATORY)	GRADES 9-12			
EXPLORATORY	Computer System Servicing (NC II)++			
	Computer Hardware Servicing (NC II)+	4 sems	*Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II) 4 sems	
			*Telecom OSP Installation (Fiber Optic Cable) (NC II) 2 sems	***Broadband Installation (Fixed Wireless Systems) (NC II) 2 sems
	Illustration (NC II)	4 sems	Medical Transcription (NC II) 4 sems	
	Technical Drafting (NC II)	4 sems	Contact Center Services (NC II) 4 sems	
	Computer Programming (NC IV)+ When updated, this CG will become the following: 1. Programming (.net Technology) (NC II) 2. Programming (Java) (NC II) 3. Programina (Oracle Database) (NC II)	4 sems	Animation (NC II) 4 sems	


* Please note that these subjects have pre-requisites mentioned in the CG.

+ CG to be updated by December 2015

++ CG to be uploaded by December 2015

*** Subject has two pre-requisites

 Other specializations with no pre-requisites may be taken up during these semesters.

 Pre-requisites of the subjects to the right should be taken up during these semesters.

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