

K to 12 BASIC EDUCATION CURRICULUM

**JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

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. Animal Production (Poultry-Chicken) (NC II); 2. Animal Production (Ruminants) (NC II); and 3. Animal Production (Swine) (NC II)	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)

⁺CG to be updated by December 2015

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INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

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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 INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

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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INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)
GRADE 7/8 (Exploratory)

Course Description:

This is an exploratory and introductory course which leads to a **Computer Hardware Servicing** National Certificate Level II (NC II). It covers **five** common competencies that a **Grade7/Grade 8** Technology and Livelihood Education (TLE) student ought to possess: 1) use of tools; 2) maintaining tools, equipment and paraphernalia; 3) performing mensuration and calculation; 4) interpreting technical drawing and plans; and 5) practicing Occupational Health and Safety (OHS) procedures.

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

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
Introduction 1. Relevance of the course 2. Basic concepts in Computer Hardware Servicing 3. Career opportunities	The learner demonstrates understanding basic concepts and underlying theories of computer hardware servicing.	The learner independently demonstrates common competencies in computer hardware servicing as prescribed by TESDA Training Regulations.	1. Discuss the relevance of the course 2. Explain basic concepts in computer hardware servicing 3. Explore opportunities in computer hardware servicing as a career	
LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES - PECs (PC)				
1. Assessment of Personal Entrepreneurial Competencies and Skills (PECs) vis-à-vis a practicing entrepreneur/employee's 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PECs in relation to a practitioner's	The learner demonstrates understanding of one's PECs in relation to computer hardware servicing.	The learner recognizes his/her PECs and prepares an activity plan that aligns with the PECs of a practitioner/entrepreneur's in computer hardware servicing.	LO 1. Recognize PECs needed in Computer Hardware Servicing 1.1 Assess one's PECs: characteristics, attributes, lifestyle, skills, traits 1.2 Assess practitioner's PECs: characteristics, attributes, lifestyle, skills, traits 1.3 Compare one's PECs with that of a practitioner/entrepreneur's 1.4 Align one's PECs with those of a practitioner/entrepreneur's	TLE_PECs7/8-00-1
LESSON 2: ENVIRONMENT AND MARKET (EM)				
1. Key concepts of Environment and Market 2. Products and services available in the market 3. Differentiation of products and	The learner demonstrates understanding of the concepts of environment and market that relate with a career choice in computer hardware servicing.	The learner independently generates a business idea based on the analysis of environment and market in computer hardware servicing.	LO 1. Generate a business idea that relates with a career choice in Computer Hardware Servicing 1.1 Conduct SWOT analysis 1.2 Identify the different products/services available	TLE_EM7/8-00-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
services 4. Customers and their buying habits 5. Competition in the market 6. SWOT Analysis			in the market 1.3 Compare different products/services in computer hardware servicing business 1.4 Determine the profile potential customers 1.5 Determine the profile potential competitors 1.5 Generate potential business idea based on the SWOT analysis	
LESSON 3: USE OF HAND TOOLS AND EQUIPMENT (UT)				
1. Hand tools in computer hardware servicing 2. Equipment in computer hardware servicing	The learner demonstrates understanding of the use of hand tools and equipment for computer hardware servicing.	The learner independently uses hand tools and equipment for computer hardware servicing.	LO 1. Prepare hand tools and equipment for computer hardware servicing 1.1 Prepare hand tools and equipment according to function and task requirement	TLE_ICTCS7/8UT-0a-1
3. Procedure in accomplishing forms: 3.1 Job order slips 3.2 Tools and materials requisition slips 3.3 Borrower's slip 4. Requisition procedures			LO 2. Inspect hand tools and equipment received 1.2 Check the list of tools and equipment to be requested per job requirement 2.2 Inspect the requested tools and equipment 2.3 Assess the condition of all hand tools and equipment for proper operation and safety	TLE_ICTCS7/8UT-0b-2
LESSON 4: MAINTAIN HANDTOOLS, EQUIPMENT AND PARAPHERNALIA (MT)				
1. Safety procedures in using hand tools and equipment 2. Procedures in cleaning, tightening and simple repair of hand tools, equipment and paraphernalia 3. Common malfunction in hand tools, equipment and	The learner demonstrates understanding of concepts and underlying principles in maintaining the tools, equipment and paraphernalia for computer hardware servicing.	The learner independently maintains the tools, equipment and paraphernalia for computer hardware servicing.	LO 1. Use and maintain hand tools, measuring instrument and equipment 1.1 Perform safety procedures in using hand tools and equipment 1.2 Follow procedures in cleaning, tightening and	TLE_ICTCS7/8MT-0c-d-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
paraphernalia 4. Reporting to property custodian			simple repair of hand tools, equipment and paraphernalia 1.3 Identify common malfunction (unplanned or unusual events) when using tools, equipment and paraphernalia 1.4 Follow procedures in preparing a report to property custodian	
LESSON 5: PERFORM MENSURATION AND CALCULATION (MC)				
1. Types of components and objects to be measured: 1.1 Memory 1.2 Data storage capacity 1.3 Processor 1.4 Video card 2. Correct specifications of the relevant sources	The learner demonstrates understanding of concepts and underlying principles in performing measurements and calculations.	The learner independently performs accurate measurements and calculations based on a given tasks.	LO 1. Perform basic mensuration 1.1 Identify object/s to be measured 1.2 Use the correct specifications as specified in the operating system	TLE ICTCS7/8MC-0e-1
3. Conversion and calculation 3.1 Capacity and speed 3.2 Memory 3.3 Data storage 3.4 Processor 3.5 Video card			LO 2. Carryout mensuration and calculation 2.1 Perform calculation needed to complete task using the four mathematical fundamental operations (addition, subtraction, multiplication and division) 2.2 Employ different techniques in checking accuracy of the computation	TLE ICTCS7/8MC-0f-2
LESSON 6: PREPARE AND INTERPRET TECHNICAL DRAWING (TD)				
1. Basic symbols 2. Basic Elements 2.1 Schematic diagram 2.2 Charts 2.3 Block diagrams 2.4 Layout plans 2.5 Loop diagram	The learner demonstrates understanding of concepts and underlying principles in preparing and interpreting technical drawings and work plans for computer hardware servicing.	The learner independently prepares and interprets technical drawings and work plans accurately.	LO 1. Identify different kinds of technical drawings 1.1 Identify basic symbols used in technical drawing 1.2 Select technical drawing in accordance with the job requirement	TLE ICTCS7/8TD-0g-1
3. Flowchart interpretation			LO 2. Interpret technical	TLE ICTCS7/8TD-0h-

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODES
3.1 Types of flowchart			drawing 2.1 Identify the basic symbols used in flow charting 2.2 Interpret the symbols used in flow charting 2.3 Create a flowchart that depicts a simple scenario	2
LESSON 7: PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURES (OS)				
1. Hazards and risks control 1.1 safety regulations 1.2 indicators of hazard and risks 1.3 contingency measures	The learner demonstrates understanding of concepts and underlying principles of Occupational Health and Safety (OHS) procedures in relation to hazards and risks in the workplace.	The learner consistently observes and practices occupational health and safety procedures in the workplace.	LO 1. Identify hazards and risks 1.1 Explain hazards and risks in the workplace 1.2 Identify hazards and risks indicators in the workplace 1.3 Apply contingency measures in accordance with the OHS procedures	TLE_ICTCS7/8OS-0i-1
2. Evaluation of hazards and risks 2.1 Effects of hazards and risks in the work place			LO 2. Evaluate hazards and risks 2.1 Determine the effects of hazards and risks 2.2 Classify the types of hazards and risks in the workplace	TLE_ICTCS7/8OS-0j-2
3. Hazards and risks control 3.1 Safety regulation			LO 3. Control hazards and risks 3.1 Follow OHS Procedures for controlling hazards and risks 3.2 Use personal protective equipment (PPE) 3.3 Follow and observe organizational protocol when providing emergency assistance	TLE_ICTCS7/8OS-0j-3
4. Maintenance of OHS procedures awareness 5. OHS procedures, practices and regulations			LO 4. Maintain occupational health and safety regulations 4.1 Participate in related drills and training 4.2 Prepare OHS personal records in accordance with workplace requirements	TLE_ICTCS7/8OS-0j-4

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 INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

(160 hours)

Course Description:

This is a specialization course which leads to a **Computer Hardware Servicing** National Certificate Level II (NC II). It covers **two core** competencies that a high school student ought to possess: 1) installing computer systems and networks; and 2) diagnosing and troubleshooting computer systems.

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

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Relevance of the course 2. Basic concepts and core competencies in Computer Hardware Servicing 3. Career opportunities	The learner demonstrates understanding of basic concepts, underlying theories and core competencies in computer systems and networks.	The learner independently provides quality and marketable service in computer hardware servicing in terms of computer systems and networks installation, and diagnoses and troubleshoots computer systems as prescribed by TESDA Training Regulations.	1. Discuss the relevance of the course 2. Explain basic concepts, theories and core competencies in computer hardware servicing 3. Explore opportunities in computer hardware servicing as a career	
LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES - PECs (PC)				
1. Assessment of Personal Competencies and Skills (PECs) vis-à-vis a practicing entrepreneur/employee in locality 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PECs in relation to a practitioner's 3. Align, strengthen and develop ones PECs based on the results	The learner demonstrates understanding of one's PECs in in computer hardware servicing.	The learner recognizes his/her PECs and prepares an activity plan that aligns with the PECs of a practitioner/entrepreneur's in the computer hardware servicing business..	LO 1. Recognize PECs needed in Computer Hardware Servicing 1.1 Assess one's PECs: characteristics, attributes, lifestyle, skills, traits 1.2 Assess practitioner's PECs: characteristics, attributes, lifestyle, skills, traits 1.3 Compare one's PECs with that of a practitioner /entrepreneur's 1.4 Align one's PECs with those of a practitioner/entrepreneur's	TLE_PECs9-12-IO-1
LESSON 2: ENVIRONMENT AND MARKET (EM)				
1. Market (Town) 2. Key concepts of Market 3. Players in the market (Competitors) 4. Products and services available in the market	The learner demonstrates understanding of environment and market in computer hardware servicing in one's locality.	The learner independently creates a business vicinity map reflective of the potential computer hardware servicing market within the locality.	LO 1. Recognize and understand the market in computer hardware servicing 1.1 Identify the players/competitors within the town 1.2 Identify the different	TLE_EM9-12-IO-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
5. Market (Customer) 6. Key concepts of identifying and understanding the consumer 7. Consumer Analysis through: 7.1 Observation 7.2 Interviews 7.3 Focus Group Discussion 7.4 Survey			products/services available in the market LO 2. Recognize the potential customer/market in computer hardware servicing 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-I0-2
LESSON 3: INSTALLING COMPUTER SYSTEMS AND NETWORKS (CN)				
1. OHS policies and procedures 2. Occupational Health and Safety laws 3. Personal safety 4. Workplace hazards 5. Environment laws 6. Computer Peripherals/ Devices /Systems 7. Personal computer systems and devices 8. Peripherals 9. Networking devices 10. Tools, equipment and testing devices	The learner demonstrates understanding of planning, installing and testing computer systems and networks.	The learner independently demonstrates the correct planning, installing and testing of computer systems and networks.	LO 1. Plan and prepare for installation 1.1 Observe OHS policies and procedures in planning for installation activity in accordance with requirements 1.2 Familiarize oneself with computer peripheral/ devices/systems in accordance with established procedures correct operation and safety 1.3 Consult appropriate/ technical personnel to ensure that work is coordinated with others who are involved in the activity 1.4 Determine the location of the devices/systems to be used 1.5 Obtain materials necessary to complete the work in accordance with established procedures	TLE ICTCS9-12CN-Ia-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
23. Reporting and documentation procedures			3.2 Check circuits and systems being isolated using specified testing procedures 3.3 Test devices, systems and/or installation to determine its conformity with the requirements 3.4 Undertake final inspections on the installed devices, systems to ensure conformity with the requirement 3.5 Accomplish technical reports on the tests conducted 3.6 Follow procedures in forwarding documentation to appropriate personnel and/or authority on the test conducted	
LESSON 4: DIAGNOSING AND TROUBLESHOOTING COMPUTER SYSTEMS (DT)				
1. Safety precautions 2. Types of computer systems errors 3. Diagnosing computer systems 4. Manual diagnosis 5. Software diagnosis	The learner demonstrates understanding of the underlying concepts and principles of diagnosing and troubleshooting computer systems.	The learner independently diagnoses and troubleshoots computer systems as prescribed by TESDA Training Regulations.	LO 1. Plan and prepare for diagnosis of computer systems errors 1.1 Follow OHS procedures in planning and preparing diagnosis of computer systems errors 1.2 Determine the computer systems errors using manual and software diagnosis	TLE_ICTCS9-12DT-IIIa-g-1
6. Safety precautions 7. Basic concepts of Electricity 8. Techniques for diagnosing computer systems 9. Diagnosing tools: 9.1 Manual 9.2 Software			LO 2. Diagnose and configure computer systems and networks 2.1 Follow OHS procedures in planning and preparing diagnosis of computer systems and network errors	TLE_ICTCS9-12DT-IIIf-j-2

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
10. Computer systems and network configurations			2.2 Identify the diagnosed computer systems and network errors based on the job requirements 2.3 Configure computer systems and networks	
11. Safety precautions 12. Determining defective components 13. Repairing/replacing different components 13.1 Wiring techniques 13.2 Power supplies 14. Basic networking errors			LO 3. Inspect and test the configured computer systems and networks 3.1 Follow OHS procedures in inspecting and testing configured computer systems and networks 3.2 Inspect configured computer systems and networks 3.3 Replace defective components 3.4 Reinstall defective computer systems 3.5 Identify network errors 3.6 Repair network errors based on standard procedures 3.7 Test the configured computer systems and networks	TLE ICTCS9-12DT-IVa-g-3
15. Safety precautions 16. Guidelines for testing computer systems and networks			LO 4. Test Systems and Networks 4.1 Follow OHS procedures in testing systems and networks 4.2 Test computer systems and networks in accordance with the job requirements 4.3 Accomplish technical reports on the tests conducted	TLE ICTCS9-12DT-IVh-j-3

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INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)
(160 hours)

Course Description:

This is a specialization course which leads to a **Computer Hardware Servicing** National Certificate Level II (NC II). It covers two core competencies that a high school student ought to possess: 1) configuring computer systems and networks; and 2) maintaining computer systems and networks.

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

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Relevance of the course 2. Basic concepts in Computer Hardware Servicing 3. Career opportunities	The learner demonstrates understanding of basic concepts and underlying theories in configuring and maintaining computer systems and networks.	The learner independently demonstrates competencies in configuring and maintaining computer systems and networks as prescribed by TESDA Training Regulations.	1. Discuss the relevance of the course 2. Explore opportunities in computer hardware servicing as a career 3. Explain basic concepts in computer hardware servicing	
LESSON 1: PERSONAL ENTREPRENEURIAL COMPETENCIES - PECs (PC)				
1. Assessment of Personal Competencies and Skills (PECs) vis-à-vis those of a practicing entrepreneur/employee in a province. 1.1 Characteristics 1.2 Attributes 1.3 Lifestyle 1.4 Skills 1.5 Traits 2. Analysis of PECs in relation to a practitioner 3. Application of PECs to the chosen business/career	The learner demonstrates understanding of one's PECs in computer hardware servicing.	The learner independently creates a plan of action that strengthens/ further develops one's PECs in computer hardware servicing.	LO 1. Develop and strengthen PECs needed in Computer Hardware Servicing 1.1 Identify areas for improvement, development and growth 1.2 Align one's PECs according to his/her business/career choice 1.3 Create a plan of action that ensures success of his/her business/career choice	TLE_PECs9-12-IO-1
LESSON 2: ENVIRONMENT AND MARKET (EM)				
1. Product Development 2. Key concepts of developing a product 3. Finding Value 4. Innovation 4.1 Unique Selling Proposition (USP)	The learner demonstrates understanding of environment and market in computer hardware servicing in one's town/municipality.	The learner independently creates a business vicinity map reflective of the potential computer hardware servicing market in one's town/municipality.	LO 1. Develop a product/service in computer hardware servicing 4.1 Identify what is of "value" to the customer 4.2 Identify the customer to sell to 4.3 Explain what makes a	TLE_EM9-12-IO-1

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 JUNIOR HIGH SCHOOL TECHNICAL LIVELIHOOD EDUCATION AND SENIOR HIGH SCHOOL - TECHNICAL-VOCATIONAL-LIVELIHOOD TRACK
 INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			product unique and competitive 4.4 Apply creativity and innovative techniques to develop marketable product 4.5 Employ a Unique Selling Proposition (USP) to the product/service	
5. Selecting a Business Idea 6. Key concepts in selecting a business Idea 6.1 Criteria 6.2 Techniques			LO 2. Select a business idea based on the criteria and techniques set 2.1 Enumerate various criteria and steps in selecting a business idea 2.2 Apply the criteria/steps in selecting a viable business idea 2.3 Determine a business idea based on the criteria/techniques set	TLE_EM9-12-IO-2
7. Branding			LO 3. Develop a brand for the product 3.1 Identify the benefits of having a good brand 3.2 Enumerate recognizable brands in the town/province 3.3 Enumerate the criteria for developing a brand 3.4 Generate a clear appealing product brand	TLE_EM9-12-IO-3
LESSON 3: CONFIGURING COMPUTER SYSTEMS AND NETWORKS (CC)				
1. Safety procedures 2. Inspecting work instructions according to job requirements 3. Planning and preparing of standard operating procedures	The learner demonstrates understanding of the underlying concepts and principles in configuring computer systems and networks.	The learner independently demonstrates skills in configuring computer systems and networks as prescribed by TESDA Training Regulations.	LO 1. Plan and prepare for configuration 1.1 Follow OHS in planning and preparing for configuration of computer systems and networks 1.2 Prepare computer	TLE ICTCS9-12CC-Ia-c-1

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
4. Procedures in using the tools and equipment			systems, tools, devices, equipment and materials 1.3 Check computer systems and networks configuration against specified requirements 1.4 Identify the procedures in using the tools and equipment	
5. Safety precautions 6. Networking devices, media and connectors 7. Internet Protocols (IP) 8. Network Security 9. File and Printer Sharing			LO 2. Configure computer systems and networks 2.1 Follow OHS procedures in configuring computer systems and networks 2.2 Inspect networking devices, media and connectors 2.3 Create cross-over and straight-through cables 2.4 Assign IP address to clients and servers 2.5 Configure the assigned IP address to clients and servers 2.6 Enable network security to the computer systems 2.7 Configure file and printer sharing	TLE ICTCS9-12CC-IIId-f-2 TLE ICTCS9-12CC IIg-2
10. Safety precautions 11. Guidelines for testing computer systems and networks			LO 3. Inspect and test configured computer Systems and networks 1.1 Follow OHS procedures in testing systems and networks 1.2 Test computer systems and networks in accordance with the job requirements 1.3 Accomplish technical reports on the tests	TLE ICTCS9-12CC-IIh-j-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			conducted	
LESSON 4: MAINTAINING COMPUTER AND NETWORK SYSTEMS (MN)				
1. Safety procedures 2. Procedures in planning and conducting maintenance 3. Identification and diagnoses of faulty computer and networks systems 4. Tools and tests equipment 5. PC specifications 6. Network functions and specifications	The learner demonstrates understanding of the underlying concepts and principles in maintaining computer and networks systems.	The learner independently demonstrates skills in computer and network systems as prescribed by TESDA Training Regulations.	LO 1. Plan and prepare for the maintenance of computer systems and networks 1.1 Follow OHS procedures in maintaining computer systems and networks 1.2 Plan on how to maintain computer and networks systems 1.3 Identify faulty computer and networks systems 1.4 Identify tools in maintaining computer and network systems 1.5 Inspect testing equipment/devices 1.6 Check PC specifications 1.7 Verify network functions and specifications	TLE_ICTCS9-12MN-IIIa-e-1
7. Safety procedures 8. Diagnosis and identification of faulty systems 9. Diagnostics software 10. Repair or replace faulty system 11. Maintenance of computer systems 11.1 Procedures in cleaning hardware components 11.2 Defragment 11.3 Scandisk 11.4 Delete temporary files 11.5 Uninstall unused Programs			LO 2. Maintain computer systems 2.1 Follow OHS procedures in maintaining computer systems 2.2 Identify faulty computer systems 2.3 Test normal functions of computer systems 2.4 Perform repair and replacement of faulty computer systems 2.5 Adhere to the recommended schedule and techniques in maintaining and cleaning computer systems 2.6 Respond to sudden	TLE_ICTCS9-12MN-III f-j-2

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			breakdowns of computer systems in accordance with established procedures	
12. Safety procedures 13. Procedures in maintaining network systems 14. Diagnostics software 15. Repair or replace faulty systems and cables 16. Burn-in test computer system			LO 3. Maintain network systems 3.1 Follow OHS procedures in maintaining network systems 3.2 Identify procedures in maintaining network systems 3.3 Check or run the diagnostic software 3.4 Adhere to the recommended schedule and techniques in maintaining and cleaning network systems 3.5 Respond to sudden breakdowns of network systems in accordance with established procedures 3.6 Run the burn-in test on computer systems	TLE_ICTCS9-12MN-IVa-e-3
17. Safety procedures 18. Maintenance of computer systems and networks 19. Computer communications 20. Internet connectivity 21. Burn-in test repaired computer systems and networks 22. Documentation of tasks			LO 4. Inspect and test configured/repaired computer systems and networks 4.1 Follow OHS procedures in maintaining network systems 4.2 Maintain the computer systems and networks to ensure safe operations 4.3 Run or conduct computer to computer communications 4.4 Connect computer	TLE_ICTCS9-12MN-IVf-j-4

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			systems to the internet 4.5 Check computer systems and network to ensure safe operation 4.6 Run the burn-in test on computer systems 4.7 Conduct final inspection on the tests undertaken 4.8 Prepare technical reports that comply with job requirements	

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 INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)**

Code Book Legend

Sample: TLE_HETL9-12MT-IVj-16

LEGEND		SAMPLE		DOMAIN/ COMPONENT	CODE
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_ Information and Communications Technology Computer Hardware Servicing	TLE_ ICT CS 9-12	Personal Entrepreneurial Competencies	PECS
	Grade Level	Grade 9/10/11/12		Environment and Market	EM
Uppercase Letter/s	Domain/Content/ Component/ Topic	Maintaining Computer Networks and Systems	MN	Use of Hand Tools and Equipment	UT
				Maintain Hand Tools, Equipment, and Paraphernalia	MT
			-	Perform Mensuration and Calculation	MC
Roman Numeral <i>*Zero if no specific quarter</i>	Quarter	Fourth Quarter	IV	Prepare and Interpret Technical Drawing	ID
Lowercase Letter/s <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Week Six to Ten	f-j	Practice Occupational Health and Safety Procedures	OS
			-	Installing Computer Systems and Networks	CN
Arabic Number	Competency	Inspect and test configured/repaired computer systems and networks	4	Diagnosing and Troubleshooting Computer Systems	DT
			-	Configuring Computer Systems and Networks	CC
			-	Maintaining Computer and Network Systems	MN

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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 INFORMATION AND COMMUNICATIONS TECHNOLOGY - COMPUTER HARDWARE SERVICING (NC II)
 SAMPLE ICT CURRICULUM MAP** (as of November 2015)**

Grade 7/8 (EXPLORATORY)				GRADES 9-12			
EXPLORATORY				Computer System Servicing (NC II)++			
				4 sems			
				Computer Hardware Servicing (NC II)+		*Telecom OSP and Subscriber Line Installation (Copper Cable/POTS and DSL) (NC II)	
				4 sems		4 sems	
						*Telecom OSP Installation (Fiber Optic Cable) (NC II)	***Broadband Installation (Fixed Wireless Systems) (NC II)
				2 sems		2 sems	
				Illustration (NC II)		Medical Transcription (NC II)	
4 sems		4 sems					
Technical Drafting (NC II)		Contact Center Services (NC II)					
4 sems		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. Programming (Oracle Database) (NC II)		Animation (NC II)					
4 sems		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.**