

**TECHNOLOGY AND LIVELIHOOD EDUCATION  
GRADE 9 or 10**

**COMPONENT:** INFORMATION AND COMMUNICATIONS TECHNOLOGY

**SECTOR:** COMPUTER PROGRAMMING

**DESCRIPTION:** This is one of the sectors under the Information and Communications Technology (ICT) consisting of preliminary competencies in the specializations of Dot Net and JAVA This includes Hypertext Mark-up Language (HTML) and Cascading Style Sheets (CSS).

**QUARTER I/III**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Introduction to Computer Programming <ul style="list-style-type: none"> <li>● Current trends</li> <li>● Business/ career opportunities</li> <li>● Skills needed</li> </ul>	demonstrate an understanding of the current trends, opportunities, computer ergonomics, and HTML elements	1. discuss the current trends, business/career opportunities, and skills needed in Computer Programming
Computer Ergonomics <ul style="list-style-type: none"> <li>● Health risks of working at computer</li> <li>● Ergonomic Tips for Computer Users</li> </ul>	demonstrate an understanding of the computer ergonomics in relation to health and risk hazards in the workplace	2. discuss computer ergonomics
Hypertext Markup Language (HTML) <ul style="list-style-type: none"> <li>● Structure</li> <li>● Elements</li> <li>● Attributes</li> </ul>	demonstrate understanding of the Hypertext Mark-up Language structure and syntax	3. distinguish HTML structure, elements, and attributes
HTML Editor <ul style="list-style-type: none"> <li>● user interface</li> <li>● features</li> </ul>	demonstrate an understanding of the HTML document editors	4. utilize an HTML editor in creating HTML documents

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
HTML Heading, Paragraph, Styles and Formatting elements	demonstrate an understanding of the HTML heading, paragraph, styles, and formatting	5. apply heading, paragraph, styles and formatting elements in HTML document
Multimedia elements <ul style="list-style-type: none"> <li>● Image, video, and audio</li> </ul>	demonstrate an understanding of the multimedia elements in a webpage	6. embed multimedia elements in a webpage
HTML Lists <ul style="list-style-type: none"> <li>● Types</li> <li>● Attributes</li> </ul>	demonstrate an understanding of the HTML list types and attributes	7. perform adding list in a webpage
HTML Tables <ul style="list-style-type: none"> <li>● Elements</li> <li>● Attributes</li> </ul>	demonstrate an understanding of the HTML table elements and attributes	8. create a table in a webpage
HTML Forms <ul style="list-style-type: none"> <li>● Types</li> <li>● Elements</li> <li>● Attributes</li> </ul>	demonstrate an understanding of the HTML form types, attributes, and elements	9. utilize HTML form, types, and elements in a webpage
HTML Links <ul style="list-style-type: none"> <li>● Attributes</li> <li>● Absolute and relative URL</li> </ul>	demonstrate an understanding of the HTML links	10. apply links to images, email, button, and text in a webpage
Website Development	demonstrate an understanding of the Website Development	11. develop a website
<b>PERFORMANCE STANDARD</b>	The learners develop website using HTML in a safe and responsible manner	

**QUARTER II/IV**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Cascading Style Sheets (CSS) <ul style="list-style-type: none"> <li>● Introduction</li> <li>● Syntax</li> <li>● Selectors</li> <li>● Types                             <ul style="list-style-type: none"> <li>▪ Inline CSS</li> <li>▪ Internal or Embedded CSS</li> <li>▪ External CSS</li> </ul> </li> </ul>	demonstrate an understanding of the Cascading Style Sheets	1. discuss syntax, selectors, and types of cascading style sheets
CSS Colors, backgrounds, fonts, and text	demonstrate an understanding of the CSS Colors, backgrounds, fonts, and text	2. apply CSS Colors, backgrounds, fonts and text into a webpage
CSS Borders, Margins and Paddings	demonstrate an understanding of the CSS borders, margins, and paddings	3. apply CSS borders, margins, and paddings
CSS Icons, Links, List and Tables	demonstrate an understanding of the CSS Icons, Links, List, and Tables	4. apply CSS Icons, Links, List, and Tables
CSS Animations and Transitions	demonstrate an understanding of the CSS animations and transitions	5. apply CSS animation and transition in a webpage
CSS Box model	demonstrate an understanding of the CSS Box model	6. utilize CSS box model in a webpage
CSS Box shadow and transform	demonstrate an understanding of the CSS Box shadow and transform	7. utilize CSS box shadow and transform in a webpage
Basic Interactive Website Development	demonstrate an understanding of the Basic Interactive Website Development	8. create interactive website
<b>PERFORMANCE STANDARD</b>	The learners create an interactive website	

**COMPONENT: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

**SECTOR: TELECOMMUNICATIONS**

**DESCRIPTION:** This is one of the sectors under the Information and Communications Technology (ICT) consisting of preliminary competencies in the specialization of Contact Center Services It covers Contact Center operations and procedures.

**QUARTER I/III**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
The Contact Center Industry <ul style="list-style-type: none"> <li>• The emergence of the Contact Center industry</li> <li>• Career opportunities in Contact Center industry</li> </ul>	demonstrate an understanding of the nature of Contact Center Industry	1 discuss Contact Center Industry and its career opportunities
Contact Center jargons <ul style="list-style-type: none"> <li>• Bio break</li> <li>• Ahod</li> <li>• AU X</li> <li>• Floor</li> <li>• Huddle</li> <li>• Long Call</li> <li>• Sup Call</li> </ul>		2. discuss the jargons in contact center industry
Inbound vs Outbound calls		3. differentiate inbound from outbound calls
Duties and Responsibilities of a Contact Center Employee <ul style="list-style-type: none"> <li>• Addressing customer concern</li> <li>• Providing customer satisfaction</li> </ul>		4. discuss the duties and responsibilities of a Contact Center employee
Skills and attributes needed for a Contact Center Employee <ul style="list-style-type: none"> <li>• Intra and Interpersonal Skills</li> <li>• Communication Skills</li> </ul>		5. discuss the skills and attributes needed for a Contact Center Employee

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<ul style="list-style-type: none"> <li>• Computer Literacy skills</li> </ul> Services offered in a Contact Center <ul style="list-style-type: none"> <li>• Customer service</li> <li>• Sales</li> <li>• Technical support</li> <li>• Chat support</li> </ul>		6. discuss the types of services offered in Contact Center
Phone Etiquette	demonstrate an understanding of the phone etiquette in handling calls	7. demonstrate phone etiquette in handling calls
<b>PERFORMANCE STANDARD</b>	The learners perform phone etiquette in handling calls	

**QUARTER II/IV**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Accuracy and Fluency in Communication in handling inbound and outbound calls either voice or non-voice	demonstrate an understanding of the accuracy and fluency in communication	1. apply accuracy and fluency in communication in handling inbound and outbound calls either voice or non-voice
Local and international accounts catered in Contact Center <ul style="list-style-type: none"> <li>• Cultures</li> <li>• Time zones</li> </ul>	demonstrate an understanding of the local and international accounts catered in a Contact Center	2. discuss local and international accounts catered in a Contact Center
Procedures in Call Handling <ul style="list-style-type: none"> <li>• Inquiry</li> <li>• Concerns</li> <li>• Complaints</li> <li>• Sales</li> </ul>	demonstrate an understanding of handling different calls	3. perform procedures in call handling
Call Flow <ul style="list-style-type: none"> <li>• Opening spiel empathy, sympathy and assurance statements</li> <li>• Probing questions</li> <li>• Resolution</li> <li>• Closing spiel</li> </ul>	demonstrate an understanding of the basic call flow in Contact Center	4. perform call flow
Common Metrics <ul style="list-style-type: none"> <li>▪ Average Handling Time (AHT)</li> <li>▪ Customer Satisfaction (CSAT)</li> <li>▪ Dissatisfied Customer (DSAT)</li> <li>▪ First Call Resolution (FCR)</li> </ul>	demonstrate an understanding of the common Metrics in Contact Center	5. discuss common metrics
<b>PERFORMANCE STANDARD</b>	The learners perform the procedures in handling call and call flow	

**COMPONENT: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

**SECTOR: COMPUTER SYSTEMS SERVICING**

**DESCRIPTION:** This is one of the sectors under the Information and Communications Technology (ICT) consisting of preliminary competencies in the specialization of Computer Systems Servicing. It covers installing and configuring computer systems, as well as maintaining and repairing computer systems.

**QUARTER I/III**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Introduction to Computer Systems Servicing <ul style="list-style-type: none"> <li>● Career Opportunities</li> <li>● Business Opportunities</li> </ul>	demonstrate an understanding of the concepts of career opportunities in computer systems servicing	1. discuss career and business opportunities in computer systems servicing
Tools and Equipment <ul style="list-style-type: none"> <li>● Types</li> <li>● Functions</li> </ul>	demonstrate an understanding of the types and functions of tools and equipment in computer systems servicing	2. discuss tools and equipment in computer systems servicing
Parts and Functions of Computer System Unit <ul style="list-style-type: none"> <li>● Motherboard                             <ul style="list-style-type: none"> <li>○ CPU</li> <li>○ BIOS</li> <li>○ Slots</li> <li>○ Southbridge/northbridge</li> <li>○ BIOS</li> <li>○ I/O Ports</li> </ul> </li> <li>● Power Supply Unit (PSU)</li> <li>● Expansion Cards</li> </ul>	demonstrate an understanding of the parts of the computer system unit	3. discuss the parts and functions of the computer system unit

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<ul style="list-style-type: none"> <li>● Storage Devices</li> <li>● Random Access Memory (RAM)</li> <li>● Central Processing Unit (CPU)</li> <li>● Fan</li> <li>● Heatsink</li> <li>● Cables</li> </ul>		
<p>Software</p> <ul style="list-style-type: none"> <li>● System Software                             <ul style="list-style-type: none"> <li>○ Operating System</li> <li>○ Device Drivers</li> <li>○ Firmware</li> <li>○ Utility Software</li> </ul> </li> <li>● Application Software                             <ul style="list-style-type: none"> <li>○ Productivity Software</li> <li>○ Database Software</li> <li>○ Multimedia Software</li> <li>○ Web Browsers</li> </ul> </li> </ul>	<p>demonstrate an understanding of the types and functions of computer software</p>	<p>4. discuss system software, its types, and functions</p> <p>5. discuss application software, its types, and functions</p>
<p>Computer Assembly</p>	<p>demonstrate an understanding of the procedures in setting up computer system</p>	<p>6. perform computer assembly with safety precautions</p>
<b>PERFORMANCE STANDARD</b>	<p>The learners perform the procedures in assembling computer with safety precautions</p>	



**QUARTER II/IV**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Preparation of Installers <ul style="list-style-type: none"> <li>● creating ISO image file</li> <li>● creating bootable device                             <ul style="list-style-type: none"> <li>○ Partition Scheme</li> <li>○ File System</li> </ul> </li> </ul>	demonstrate an understanding of the procedures in setting-up computer system	1. create bootable device
Installing Operating Systems <ul style="list-style-type: none"> <li>● BIOS/UEFI configuration</li> <li>● partitioning</li> <li>● installation procedures</li> </ul>		2. perform installation of operating system with safety precautions
Installing drivers, application, and utility software		3. perform installation of drivers, application, and utility software with safety precautions
Testing and Updating <ul style="list-style-type: none"> <li>● Testing                             <ul style="list-style-type: none"> <li>- Stress Test</li> <li>- Drivers</li> <li>- Productivity Tools</li> <li>- Utility Software</li> <li>- Audio</li> <li>- Video</li> </ul> </li> <li>● System Updates</li> </ul>		4. perform testing, updating, and checking of peripheral drivers and application software with safety precautions

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Troubleshooting and Repairing <ul style="list-style-type: none"> <li>● power</li> <li>● display/video</li> <li>● audio</li> <li>● storage devices</li> <li>● cooling system</li> <li>● ports/connectors</li> <li>● drivers</li> </ul>		5. perform troubleshooting and repairing of the computer system unit with safety precautions
Maintaining Computer System <ul style="list-style-type: none"> <li>● Software Maintenance</li> <li>● Defragmentation</li> <li>● Check Disk</li> <li>● Uninstalling unnecessary applications</li> <li>● Disabling start up applications</li> <li>● Organizing files/folders</li> </ul>		6. perform computer maintenance with safety precautions
<b>PERFORMANCE STANDARD</b>	The learners perform procedures in setting up computer system with safety precautions	

**COMPONENT: INFORMATION AND COMMUNICATIONS TECHNOLOGY**

**SECTOR: VISUAL ARTS**

**DESCRIPTION:** This is one of the sectors under the Information and Communications Technology (ICT) consisting of the preliminary competencies in the specialization of Visual Arts. This sector combines selected core competencies from two specializations: illustration for the first quarter and animation for the second quarter.

**QUARTER I/III**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Introduction to Visual Arts Sector <ul style="list-style-type: none"> <li>• Current trends in visual arts</li> <li>• Skills needed in visual arts sector</li> <li>• Tools and Equipment</li> <li>• Career and business opportunities in visual arts</li> </ul>	demonstrate an understanding of the current trends, skills, tools and equipment, career, and business opportunities in visual arts sector	1. discuss current trends, skills, tools and equipment, career, and business opportunities in visual arts sector
Elements and Principles of Design	demonstrate an understanding of the elements and principles of design, types of illustrations, drawing enhancement techniques, proportion, expression, and movements as applied in drawing human face	2. draw simple figures and objects by applying the elements and principles of design
Drawing Enhancement  Techniques <ul style="list-style-type: none"> <li>• Applying tonal values</li> <li>• Tonal range</li> <li>• Linear marks</li> </ul>		3. apply drawing enhancement techniques
Drawing Human		4. draw a human face

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Face <ul style="list-style-type: none"> <li>• Proportion</li> <li>• Expression</li> <li>• Movement</li> </ul>		
Basics of Animation <ul style="list-style-type: none"> <li>• 12 Principles of animation</li> <li>• Clean-up key drawings</li> <li>• In-between drawings</li> <li>• Animation breakdown</li> </ul>	demonstrate an understanding of the basics of animation, cleaned-up, and in-between simple drawings	5. discuss basics of animation, cleaned-up, and in-between simple drawings
Clean-Up of Simple Key Drawings <ul style="list-style-type: none"> <li>• Model sheets</li> </ul>		6. produce cleaned-up simple key drawings
In-Between Drawings <ul style="list-style-type: none"> <li>• Storyboard</li> <li>• Pegging</li> <li>• Un-pegging</li> <li>• Design standards</li> </ul>		7. produce in-between drawings
<b>PERFORMANCE STANDARD</b>	The learners apply the design principles and drawing techniques to draw a human face through simple drawings-based animation	

**QUARTER II/IV**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Illustration Software <ul style="list-style-type: none"> <li>• User Interface</li> <li>• System Requirements</li> </ul>	demonstrate an understanding of the digitizing, enhancing, and vectorizing human face using illustration software	1. navigate illustration software
Digitizing and Enhancing Drawing <ul style="list-style-type: none"> <li>• Scanning</li> <li>• File Formats</li> <li>• Inking</li> <li>• Coloring</li> </ul> <i>Note: Use the learners’s output in Quarter 1</i>		2. produce simple objects using illustration software
Vectorizing Drawing*		3. produce digitized drawing using illustration software
Animation Software <ul style="list-style-type: none"> <li>• User Interface</li> <li>• System Requirements</li> </ul> Animation Techniques <ul style="list-style-type: none"> <li>• Digitized Key Drawing</li> <li>• Digital In-Between Drawing</li> </ul>		4. produce enhanced drawing* using illustration software
<b>PERFORMANCE STANDARD</b>		5. produce vectorized drawing* using illustration software
	demonstrate an understanding of the animation, its software, system requirements, and animation techniques	6. produce simple animation
<b>PERFORMANCE STANDARD</b>	The learners create vectorized drawing and simple animation video clip	

**TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)**