

## USAGE OF ICT DEVICES

**UNIT CODE:** ICT/CU/ICTA/CC/01/4/A

### **Relationship to Occupational Standards**

This unit addresses the unit of competency: Understanding basic concepts of ICT.

**Duration of Unit:** 80 hours

### **Unit Description:**

This unit covers the competencies required to understand the concepts of Information Communication Technology. They involve identifying computer components, operating a computer, understand information networks, identifying applications of ICT, identifying healthy, safety and environmental issues in ICT and identifying ICT security issues.

### **Summary of Learning Outcomes:**

1. Identification of Computer components
2. Operating a computer
3. Understanding Computer Networks
4. Identification of Applications of ICT
5. Identification of healthy, safety and environmental issues in ICT
6. Identification of ICT security issues

### **Learning Outcomes, Content and Suggested Assessment Methods**

<b>Learning Outcome</b>	<b>Content</b>	<b>Suggested Assessment Methods</b>
1. Identification of Computer components	<ul style="list-style-type: none"><li>□ Definition of a hardware device</li><li>□ Terminologies related to hardware devices.</li><li>□ Hardware devices<ul style="list-style-type: none"><li>✓ Input<ul style="list-style-type: none"><li>▪ Mouse</li><li>▪ Keyboard</li><li>▪ Scanner</li></ul></li></ul></li></ul>	<ul style="list-style-type: none"><li>• Practical</li><li>• Oral questioning</li><li>• Written test</li></ul>

	<ul style="list-style-type: none"> <li>▪ Digital camera</li> <li>▪ Microphones</li> <li>▪ Joysticks</li> <li>✓ Output <ul style="list-style-type: none"> <li>▪ Monitor</li> <li>▪ Printer</li> <li>▪ Speakers</li> <li>▪ Headsets</li> <li>▪ Projector</li> </ul> </li> <li>✓ Desktop/Laptop</li> <li>✓ Storage</li> <li>✓ Memory</li> <li>□ Functions of hardware devices <ul style="list-style-type: none"> <li>✓ Input</li> <li>✓ Output</li> <li>✓ Processing</li> <li>✓ Storage</li> </ul> </li> <li>□ Configure hardware devices</li> <li>□ Document hardware devices</li> <li>□ Definition of operating system and related terminologies</li> <li>□ Functions of application and system software</li> <li>□ Differences between application and system software</li> <li>□ Types of application software <ul style="list-style-type: none"> <li>✓ Word processing</li> <li>✓ Spreadsheet</li> <li>✓ Database</li> <li>✓ Multimedia</li> <li>✓ Graphics</li> </ul> </li> <li>□ Examples of Operating system software <ul style="list-style-type: none"> <li>✓ Ms DOS</li> <li>✓ LINUX</li> <li>✓ Windows</li> <li>✓ Mac OS</li> <li>✓ Android</li> </ul> </li> </ul>	
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2. Operating a Computer	<ul style="list-style-type: none"> <li>□ Booting procedures <ul style="list-style-type: none"> <li>✓ Cold boot</li> <li>✓ Warm boot</li> </ul> </li> <li>□ Shut down procedures</li> <li>□ File Management Operations <ul style="list-style-type: none"> <li>✓ Cut</li> <li>✓ Copy</li> <li>✓ Paste</li> <li>✓ Rename</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Practical</li> <li>• Observation</li> <li>• Written tests</li> <li>• Oral</li> </ul>
3. Computer networks	<ul style="list-style-type: none"> <li>□ Define computer network</li> <li>□ Terminologies used in a network <ul style="list-style-type: none"> <li>✓ Node</li> <li>✓ Host</li> <li>✓ Server</li> <li>✓ Client</li> </ul> </li> <li>□ Components of network <ul style="list-style-type: none"> <li>✓ Computer</li> <li>✓ Network devices (switch, hub, router etc)</li> <li>✓ Communication channels</li> </ul> </li> <li>□ Types of networks <ul style="list-style-type: none"> <li>✓ LAN</li> <li>✓ WAN</li> <li>✓ MAN</li> <li>✓ WLAN</li> </ul> </li> <li>□ Application areas of computer networks <ul style="list-style-type: none"> <li>✓ Resource sharing</li> <li>✓ Communication</li> <li>✓ Work distribution.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Practical</li> <li>• Observation</li> <li>• Written tests</li> <li>• Oral</li> </ul>

<p>4. Applications of ICT</p>	<ul style="list-style-type: none"> <li>❑ ICT Terminologies <ul style="list-style-type: none"> <li>✓ Data</li> <li>✓ Information</li> <li>✓ ICT</li> </ul> </li> <li>❑ Definition of Components of ICT (People, Hardware, Software, Procedures, information and data)</li> <li>❑ ICT applications areas <ul style="list-style-type: none"> <li>✓ Manufacturing</li> <li>✓ Security</li> <li>✓ Education</li> <li>✓ Farming</li> <li>✓ Hospitality</li> <li>✓ Medicine</li> <li>✓ Banking</li> <li>✓ Transportation</li> <li>✓ Tourism</li> <li>✓ Government</li> </ul> </li> <li>❑ Benefits of ICT use</li> <li>❑ Challenges and opportunities of ICT use in society</li> <li>❑ Emerging trends and their causes</li> </ul>	<ul style="list-style-type: none"> <li>• Written</li> <li>• Oral</li> </ul>
<p>Identify health, safety and environmental issues in ICT</p>	<ul style="list-style-type: none"> <li>• ICT Health related problems</li> <li>• Workplace ergonomics</li> <li>• Safety related problems</li> <li>❑ Equipment safety issues (Appropriateness and maintenance)</li> <li>❑ Safe use and disposal of electronic equipment and materials</li> <li>• Environmental related problems</li> </ul>	<ul style="list-style-type: none"> <li>• Practical</li> <li>• Oral</li> <li>• Observation</li> <li>• Written</li> </ul>

	<ul style="list-style-type: none"> <li><input type="checkbox"/> Environmental factors affecting human health and equipment functionality: Dust, temperature, humidity, Noise</li> <li><input type="checkbox"/> Electronic Waste Management <ul style="list-style-type: none"> <li>• Standards and guidelines for HSE care</li> <li>• Internal</li> <li>• Manufacturer</li> <li>• Benefits of green ICT/Computing</li> </ul> </li> <li><input type="checkbox"/> Recycling electronics</li> <li><input type="checkbox"/> Limiting printing and recycling paper</li> <li><input type="checkbox"/> Purchasing from environmentally committed companies <ul style="list-style-type: none"> <li>• Customising computer power management</li> </ul> </li> </ul>	
Identify ICT security issues	<ul style="list-style-type: none"> <li><input type="checkbox"/> Define ICT security</li> <li><input type="checkbox"/> Terminologies used in ICT</li> <li><input type="checkbox"/> Goals of ICT security <ul style="list-style-type: none"> <li>Confidentiality</li> <li>Integrity</li> <li>Availability</li> </ul> </li> <li><input type="checkbox"/> ICT assets to be secured <ul style="list-style-type: none"> <li>✓ Data</li> <li>✓ Information</li> <li>✓ Media</li> <li>✓ Hardware</li> <li>✓ Software</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Written</li> <li>• Oral</li> </ul>

	<ul style="list-style-type: none"> <li>❑ Advantages of ICT security</li> <li>❑ Types of security threats</li> <li>❑ Security control</li> </ul>	
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### Suggested Methods of Delivery

- Instructor led facilitation of theory
- Demonstration by trainer
- Practical work done by trainee
- Group discussions

The delivery may also be supplemented and enhanced by the following, if the opportunity allows:

- Visiting lecturer/trainer from the ICT sector;
- Industrial visits.

### Recommended Resources

<b>Tool.</b> <b>Software, internet</b>
<b>Equipment</b> Computer Lcd projectors
<b>Materials and supplies</b> <b>Materials</b> <ul style="list-style-type: none"> <li>• Digital instructional material including online resources, DVDs and CD, stationary</li> </ul> <b>Supplies</b> <ul style="list-style-type: none"> <li>• Power cable</li> <li>• Personal protective materials</li> <li>• Tonners and inks</li> <li>• UPS</li> </ul>
<b>Reference materials</b> Manufacturers manuals