USAGE OF ICT DEVICES

UNIT CODE: IT/CU/ICTA/CR/01/4/B

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 health, safety and environmental issues in ICT
6. Identification of ICT security issues

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods

1. Identification of Computer components	• Definition of a hardware device
	• Terminologies related to hardware devices.
	• Hardware devices
	  ○ Input
	  • Mouse
	  • Keyboard
	  • Scanner
	  • Digital camera
	  • Microphones
	  • Joysticks
	  ○ Output
		• Practical
		• Oral questioning
		• Written test

Learning Outcome	Content	Suggested Assessment Methods
	▪ Monitor ▪ Printer ▪ Speakers ▪ Headsets ▪ Projector o Desktop/Laptop o Storage o Memory • Functions of hardware devices o Input o Output o Processing o Storage • Configure hardware devices • Document hardware devices • Definition of operating system and related terminologies • Functions of application and system software • Differences between application and system software • Types of application software o Word processing o Spreadsheet o Database o Multimedia o Graphics • Examples of Operating system software o Ms DOS o LINUX o Windows o Mac OS o Android	
2. Operating a computer	• Booting procedures o Cold boot o Warm boot	• Practical • Observation • Written tests

Learning Outcome	Content	Suggested Assessment Methods

	• Shut down procedures
	• File Management Operations
	  ○ Cut
	  ○ Copy
	  ○ Paste
	  ○ Rename
		• Oral

3.Computer networks	• Define computer network
	• Terminologies used in a network
	  ○ Node
	  ○ Host
	  ○ Server
	  ○ Client
	• Components of network
	  ○ Computer
	  ○ Network devices (switch, hub, router etc)
	  ○ Communication channels
	• Types of networks
	  ○ LAN
	  ○ WAN
	  ○ MAN
	  ○ WLAN
	• Application areas of computer networks
	  ○ Resource sharing
	  ○ Communication
	  ○ Work distribution.
		• Practical
		• Observation
		• Written tests
		• Oral

4. Applications of ICT	• ICT Terminologies
	  ○ Data
	  ○ Information
	  ○ ICT
	• Definition of Components of ICT (People, Hardware, Software, Procedures, information and data)
	• ICT applications areas
		• Written
		• Oral

Learning Outcome	Content	Suggested Assessment Methods
	○ Manufacturing ○ Security ○ Education ○ Farming ○ Hospitality ○ Medicine ○ Banking ○ Transportation ○ Tourism ○ Government • Benefits of ICT use • Challenges and opportunities of ICT use in society • Emerging trends and their causes	
Identify health, safety and environmental issues in ICT	• ICT Health related problems • Workplace ergonomics • Safety related problems • Equipment safety issues (Appropriateness and maintenance) • Safe use and disposal of electronic equipment and materials • Environmental related problems • Environmental factors affecting human health and equipment functionality: ○ Dust, ○ temperature, ○ humidity, ○ Noise • Electronic Waste Management ○ Standards and guidelines for HSE care ○ Internal ○ Manufacturer	• Practical • Oral • Observation • Written

Learning Outcome	Content	Suggested Assessment Methods
	○ Benefits of green ICT/Computing • Recycling electronics ○ Limiting printing and recycling paper ○ Purchasing from environmentally committed companies • Customising computer power management	
Identify ICT security issues	• Define ICT security • Terminologies used in ICT • Goals of ICT security • Confidentiality • Integrity • Availability • ICT assets to be secured ○ Data ○ Information ○ Media ○ Hardware ○ Software • Advantages of ICT security • Types of security threats • Security control	• Written • Oral • Observation

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

Tools

- Software, internet

Equipment

- Computer
- Lcd projectors

Materials and supplies

Materials

- Digital instructional material including online resources, DVDs and CD, stationary

Supplies

- Power cable
- Personal protective materials
- Tonners and inks
- UPS

Reference materials

- Manufacturers manuals