Recommended Resources for 25 Trainees

- Computers
- TV sets
- LCD projectors
- Internet access to manufacturers' technical information;
- Personal protective equipment (PPE) and suitable coverings to protect vehicles;
- Facilities for the disposal of waste oil and used parts;
- Customer database and systems for recording maintenance records.
- Stationery
- Charts
- Video clips
- Audio tapes
- Radio set
- Digital multi-meters
- Test lights
- Laptop diagnostic systems
- On-board diagnostic systems
- Batteries
- Sensors
- Regulators
- Heaters
- LED
- Printed circuit boards
- Communication plugs
- Circuit tests
- Component tests
- Service code diagnostics

OPERATION OF COMPUTERIZED AGRICULTURAL EQUIPMENT

ISCED UNIT CODE: 0716 351 03A

TVETCDACC UNIT CODE: ENG/CU/AME/CR/03/4/MA

Relationship to Occupational Standards

This unit addresses the unit of Learning: utilize computerized agricultural equipment

Duration of Unit: 120 hours

Unit Description

This unit specifies the competencies required by a Farm Machinery and Equipment Operator Level 4 to utilize computerized agricultural equipment. It involves activating, navigating and operating computerized agricultural equipment.

Summary of Learning Outcomes

By the end of this unit, the learner should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	Operate computer devices	30
2.	Activate computerized agricultural equipment	30
3.	Navigate computerized agricultural equipment	30
4	Operate computerized agricultural equipment	30
Total		**120**

Learning Outcomes, Content and Suggested Assessment Methods

Learning outcome	Content	Methods of Assessment
1. Operate computer devices	1.1. Meaning and importance of digital literacy 1.2. Procedure for turning/off a computer 1.3. Types of computer devices 1.3.1 Tablets 1.3.2 desktop 1.3.3 Laptop computers 1.4. Components of a computer system 1.5. Computer Hardware 1.5.2 The System Unit E.g. Motherboard, CPU, casing, 1.5.3 Input Devices e.g. Pointing, keying, scanning, voice/speech recognition, direct data capture devices. 1.5.4 Output Devices e.g. hardcopy output and softcopy output	• Observation • Oral assessment • Portfolio of evidence • Third party report • Written assessment • Practical

	1.5.5 Storage Devices e.g. main memory e.g. RAM, secondary storage (Solid state devices, Hard Drives, CDs & DVDs, Memory cards, Flash drives
	1.5.6 Computer Ports e.g. HDMI, DVI, VGA, USB type C, etc.
	1.6. Electronic waste recycling
	1.7. Start Menu Commands and Desktop Manipulation
	1.8. Mouse use techniques
	1.9. Keyboard Parts and Use Techniques
	1.10. File and Files Management using an operating system
	1.11. Computer Internet Connection Options
	    1.10.1 Mobile Networks/Data Plans
	    1.10.2 Wireless Hotspots
	    1.10.3 Cabled (Ethernet)
	1.12. Mechanisms for storing files (flash drives, hard drives).
	1.13. Computer external devices management
	1.14. Device connections
	1.15. Device controls (volume controls and display properties)	

2. Activate computerized agricultural equipment	2.1. Wear personal protective Equipment appropriately.
	2.2. Assemble computerized agricultural equipment.
	    2.2.1. OBD
	    2.2.2. Display interfaces
	    2.2.3. Control systems
	    2.2.4. Joystick
	    2.2.5. Sensors
	    2.2.6. GPS receivers
	    2.2.7. Actuators of robotic arms
	    2.2.8. Communication modules
	2.3 Activate computerized agricultural equipment.
		• Written tests
		• Oral presentation
		• Observation

3. Navigate computerized agricultural equipment	3.1 Wear personal protective Equipment appropriately.
	3.2 Access Computerized agricultural equipment menu.
	    3.2.1. Automated steering
	    3.2.2. Precision planting
	    3.2.3. Precision spraying
		• Written tests
		• Oral presentation
		• Observation
		• Project

	3.2.4. Variable rate application of chemicals 3.2.5. Remote monitoring 3.2.6. Data collection and analysis 3.2.7. Precision harvesting 3.3 Customize Computerized agricultural equipment.	
4. Operate computerized agricultural equipment	4.1 Wear personal protective Equipment appropriately. 4.2 Select computerize agricultural Equipment functions as per work requirement. 4.3 Operate Computerized agricultural equipment as per operator's manual. 4.4 Identify robot driven agricultural equipment and machines.	• Oral questioning • Observation • Project

Suggested Methods of Instruction
- Presentations and practical demonstrations by trainer;
- Guided learner activities and research to develop underpinning knowledge;
- Supervised activities and projects in a workshop
- Instructor lead facilitation of theory
- Demonstrations
- Simulation/Role play
- Group Discussion
- Projects
- Presentations
- Case studies
- Assignments

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- 25 computers with the following software:

    a. Windows/Linux/Macintosh Operating System

    b. Microsoft Office Software

    c. Google Workspace Account

    d. Antivirus Software

- 25 External Storage Media

- 2 Printers

- Printing papers

- 2 Projectors

- 2 Whiteboards

- 2 Smartboards/Smart TV (Where applicable)

- Assorted white board markers
- Internet connection
- 3 samples of CVs
- 3 samples of job applications