

## COMPUTER OPERATIONS

**ISCED UNIT CODE:** 0611 351 02A

**TVET CDACC UNIT CODE:** IT/CU/ICTA/CR/02/4/MA

**Duration of Unit:** 150 hours

### Relationship to Occupational Standards

This unit addresses the Unit of Competency: Perform Computer Operations

### Unit Description

This unit covers the competencies required to perform computer operations. It involves processing computerized word documents, manipulating computerized spreadsheets, maintaining computerized databases, preparing PowerPoint presentation slides, manipulating graphic application and performing online collaboration.

### Summary of Learning Outcomes

| Learning Outcomes                      | Durations(Hours) |
|----------------------------------------|------------------|
| 1. Process computerized word document  | 30               |
| 2. Manipulate computerized spreadsheet | 30               |
| 3. Maintain computerized database      | 30               |
| 4. Prepare PowerPoint presentation     | 20               |
| 5. Manipulate graphic application      | 25               |
| 6. Perform online collaboration        | 15               |
| <b>Total Hours:</b>                    | <b>150</b>       |

### Learning Outcomes, Content and Suggested Assessment Methods

| Learning Outcome             | Content                                                          | Suggested Assessment Methods                                                                 |
|------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 1. Process computerized word | 1.1 Ergonomics risk factors<br>1.2 Creation of computerized word | <ul style="list-style-type: none"><li>• Practical assessment</li><li>• Simulations</li></ul> |

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| document | document<br>1.2.1 Introduction to word document<br>1.2.2 Types of word processors<br>1.2.3 Creating word document<br>1.2.4 Editing and formatting word document<br>1.2.5 Word document editing features<br>1.2.5.1 Text editing<br>1.2.5.2 Paragraph editing<br>1.2.5.3 Document editing<br>1.2.6 Word document formatting features<br>1.2.6.1 Text formatting<br>1.2.6.2 Paragraph formatting<br>1.2.6.3 Document formatting<br>1.2.7 Enhancing productivity<br>1.2.7.1 Set basic options/preferences<br>1.2.7.2 Help resources<br>1.2.7.3 Use magnification/zoom tools<br>1.2.7.4 Display, hide built-in tool bar<br>1.3 Creation and manipulation of tables<br>1.3.1 Inserting tables<br>1.3.2 Working with tables<br>1.4 Mail merge<br>1.5.1 Mail merge preparation<br>1.5.2 Mail merge output<br>1.5 Inserting word processing objects | <ul style="list-style-type: none"> <li>• Project</li> <li>• Observation Checklist</li> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul> |
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|                                        | 1.5.1 Picture<br>1.5.2 Shapes<br>1.5.3 Table<br>1.5.4 Charts<br>1.6 Generating list of figures and table of content<br>1.6.1 List of figures<br>1.6.2 Table of content<br>1.7 Printing of computerized word document<br>1.7.1 Print setup<br>1.7.2 Printing                                                                                                                                    |                                                                                                                                                                                                                                                 |
| 2. Manipulate computerized spreadsheet | 2.1 Creation of Computerized spreadsheet workbook<br>2.1.1 Spreadsheet concepts<br>2.1.2 Elements of spreadsheet window<br>2.1.2.1 Worksheet<br>2.1.2.2 workbook<br>2.1.2.3 Rows<br>2.1.2.4 columns<br>2.1.2.5 Cells<br>2.2 Cell referencing<br>2.2.1.1 Relative cell referencing<br>2.2.1.2 Absolute cell referencing<br>2.2.1.3 Mixed cell referencing<br>2.2.2 Spreadsheet editing features | <ul style="list-style-type: none"> <li>● Practical assessment</li> <li>● Simulations</li> <li>● Project</li> <li>● Observation Checklist</li> <li>● Product Checklist</li> <li>● Written assessment</li> <li>● Portfolio of evidence</li> </ul> |

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|  | 2.2.2.1 Worksheet editing<br>2.2.2.2 Inserting<br>rows/columns<br>2.2.2.3 Removing<br>rows/columns<br>2.2.2.4 Adjusting row<br>heights and column<br>width<br>2.2.2.5 Inserting<br>worksheets<br>2.2.2.6 Renaming<br>worksheets<br>2.2.2.7 Move or copy<br>worksheets<br>2.2.2.8 Deleting<br>worksheets<br>2.2.3 Data manipulation in<br>spreadsheets<br>2.2.3.1 Data entry<br>2.2.3.2 Types of data<br>2.3 Formulas and functions<br>2.3.1.1 Formulas and<br>functions syntax<br>2.3.1.2 Arithmetic<br>functions<br>2.3.1.3 logical functions<br>2.3.1.4 Look up functions<br>2.3.2 Computerized spreadsheet<br>worksheet formatting<br>2.3.2.1 Font styles |  |
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|                                   | <p>2.3.2.2 Alignment</p> <p>2.3.2.3 Borders and shading</p> <p>2.3.2.4 Header and footer</p> <p>2.4 Charts generation</p> <p>2.4.1.1 Types of charts</p> <p>2.4.1.2 Insert charts</p> <p>2.4.1.3 Labelling and Editing charts</p> <p>2.4.1.4 Computerized spreadsheet<br/>workbook printing</p> <p>2.4.1.5 Print setup</p> <p>2.4.1.6 Printing</p>                                                                                         |                                                                                                                                                                                                                                                 |
| 3. Maintain computerised database | <p>3.1 Computerised database user requirements collection</p> <p>3.1.1 Introduction to database</p> <p>3.1.1.1 Key concepts</p> <p>3.1.1.2 Database organisation</p> <p>3.1.1.3 Database relationships</p> <p>3.1.1.4 Database operations</p> <p>3.1.2 Collection of User requirements</p> <p>3.2 Design Computerised database schema</p> <p>3.2.1 Creating database models</p> <p>3.2.1.1 ERD models</p> <p>3.2.1.2 Relational models</p> | <ul style="list-style-type: none"> <li>● Practical assessment</li> <li>● Simulations</li> <li>● Project</li> <li>● Observation Checklist</li> <li>● Product Checklist</li> <li>● Written assessment</li> <li>● Portfolio of evidence</li> </ul> |

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|                                     | <p>3.3 Creation of Computerised database objects</p> <p>3.3.1 Database Objects</p> <p>3.3.1.1 Tables</p> <p>3.3.1.2 Records</p> <p>3.3.1.3 Fields</p> <p>3.3.1.4 Keys</p> <p>3.3.1.5 Forms</p> <p>3.3.1.6 Queries</p> <p>3.3.1.7 Reports</p> <p>3.4 Data manipulation</p> <p>3.4.1 Inserting records</p> <p>3.4.2 Retrieving records</p> <p>3.4.3 Deleting records</p> <p>3.4.4 Updating record</p> <p>3.4.5 Printing database objects</p> <p>3.4.5.1 Tables</p> <p>3.4.5.2 Forms</p> <p>3.4.5.3 Queries</p> <p>3.4.5.4 Reports</p> |                                                                                                                                                                                                                                                 |
| 4. Prepare Power point presentation | <p>4.1 Collecting PowerPoint Presentation requirements</p> <p>4.1.1 Definition of terms</p> <p>4.1.2 Presentation requirements</p> <p>4.1.3 Types of presentation software</p> <p>4.1.4 Elements of presentation window</p> <p>4.2 Creating PowerPoint slides</p> <p>4.2.1 Types of presentation layout</p>                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>● Practical assessment</li> <li>● Simulations</li> <li>● Project</li> <li>● Observation Checklist</li> <li>● Product Checklist</li> <li>● Written assessment</li> <li>● Portfolio of evidence</li> </ul> |

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|  | <p>4.2.2 Factors to consider when designing presentation layout</p> <p>4.2.3 Design a PowerPoint presentation</p> <p>4.2.4 Create a PowerPoint presentation</p> <p>4.2.5 Save a PowerPoint presentation</p> <p>4.3 Exhibit presentation views</p> <p>4.2.1 Slide views</p> <p>4.2.2 Working with presentations</p> <p>4.3.1.1 Switch between open PowerPoint presentations</p> <p>4.4 Perform animation and transitions</p> <p>4.4.1 Slide animation</p> <p>4.4.2 Slide transition</p> <p>4.5 Manipulation of PowerPoint slides</p> <p>4.5.1 Adding data/text to a slide</p> <p>4.5.2 Formatting data/text</p> <p>4.5.3 Move/copy/delete a slide</p> <p>4.5.4 Inserting header and footer</p> <p>4.5.5 Presentation objects</p> <p>4.5.5.1 Tables</p> <p>4.5.5.2 Charts</p> <p>4.6 Printing of PowerPoint slides</p> <p>4.6.1 Print setup</p> <p>4.6.2 Printing PowerPoint</p> |  |
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|                                   | presentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                   |
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| 5. Manipulate graphic application | <p>5.1 Identifying graphic design requirements</p> <p>5.1.1 Definition of terms</p> <p>5.1.2 Graphic application requirements</p> <p>5.1.3 Types of graphic application software</p> <p>5.1.4 Types of publications designs</p> <p>5.1.4.1 Templates</p> <p>5.1.4.2 Banners</p> <p>5.1.4.3 Booklets</p> <p>5.1.4.4 Brochures</p> <p>5.1.4.5 Flyers</p> <p>5.1.4.6 Posters</p> <p>5.1.4.7 Cards</p> <p>5.1.4.8 Certificates</p> <p>5.1.4.9 Magazines</p> <p>5.1.5 Elements of Graphic application window</p> <p>5.2 Creation of graphic design</p> <p>5.2.1 Perform basic tasks using graphic application software</p> <p>5.2.1.1 Publication type</p> <p>5.2.1.2 Page setup</p> <p>5.2.1.3 Ruler/guides</p> <p>5.2.1.4 Page views</p> <p>5.2.2 Add content to a</p> | <ul style="list-style-type: none"> <li>● Practical assessment</li> <li>● Simulations</li> <li>● Project</li> <li>● Written assessment</li> <li>● Portfolio of evidence</li> </ul> |

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|                                | <p>publication</p> <p>5.2.3 Edit content to a publication</p> <p>5.2.4 Format text and paragraphs in a publication</p> <p>5.2.5 Page formatting in a publication</p> <p>5.2.5.1 Columns</p> <p>5.2.5.2 Borders and shading</p> <p>5.2.5.3 Headers and footers</p> <p>5.2.5.4 Background</p> <p>5.2.5.5 Watermarks</p> <p>5.2.5.6 Orientation</p> <p>5.2.6 Work with graphics objects in a publication</p> <p>5.2.6.1 Textbox</p> <p>5.2.6.2 Tables</p> <p>5.2.6.3 Shapes</p> <p>5.2.6.4 Pictures</p> <p>5.2.6.5 (PNG, JPEG, GIF)</p> <p>5.3 Publishing of graphic design</p> <p>5.3.1 Prepare a publication</p> <p>5.3.2 Print setup</p> <p>5.3.3 Printing publication</p> |                                                                                                                                                                                  |
| 6. Perform document production | <p>6.1 Printing documents</p> <p>6.1.1 Introduction to document production</p> <p>6.1.2 Types of printers</p> <p>6.1.3 Document printing</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>● Practical assessment</li> <li>● Simulations</li> <li>● Project</li> <li>● Observation Checklist</li> <li>● Product Checklist</li> </ul> |

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|                                 | 6.2 Document scanning<br>6.2.1 Types of scanners<br>6.2.2 Document scanning<br>6.3 Document duplication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul>                                                                                                                                         |
| 7. Perform Online Collaboration | 7.1 Identification of Online collaboration tools<br>7.1.1 Definition of online collaboration<br>7.1.2 Importance of online collaboration<br>7.1.3 Factors to consider when choosing an online collaboration tool<br>7.1.4 Online collaboration tools<br>7.1.4.1 Microsoft teams<br>7.1.4.2 Skype<br>7.1.4.3 Google drive<br>7.1.4.4 Zoom<br>7.1.4.5 Google meet<br>7.1.4.6 Slack<br>7.2 Online collaboration preparation<br>7.2.1 Online collaboration key concepts<br>7.2.2 Common setup features<br>7.2.2.1 Download software to support online collaboration tools<br>7.2.2.2 Register and/ or set a user account<br>7.2.3 Preparation for online collaboration | <ul style="list-style-type: none"> <li>• Practical assessment</li> <li>• Simulations</li> <li>• Project</li> <li>• Observation Checklist</li> <li>• Product Checklist</li> <li>• Written assessment</li> <li>• Portfolio of evidence</li> </ul> |

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|  | <p>7.3 Application of online collaborative tools</p> <p>7.3.1 Using online collaborative tools</p> <p>7.3.1.1 Online storage media</p> <p>7.3.1.2 Using email</p> <p>7.3.1.2.1 Sending and receiving email</p> <p>7.3.1.2.2 Tools and settings</p> <p>7.3.1.2.3 Organizing email</p> <p>7.3.1.3 Using calendars</p> <p>7.3.1.4 Online calendars</p> <p>7.3.1.5 Social media</p> <p>7.3.1.6 Online learning environment</p> <p>7.3.1.7 Synchronization tools</p> <p>7.4 Demonstrating Mobile collaborations</p> <p>7.4.1 Key concepts in mobile applications</p> <p>7.4.2 Mobile applications permissions</p> <p>7.4.3 Synchronization</p> |  |
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#### **Suggested Delivery Methods**

- Demonstration by trainer
- Practical work by trainee
- Viewing of related videos
- Group discussions
- Facilitation using active learning strategies

#### **Recommended Resources for 25 Trainees**

| S/No. | Category/Item | Description/ | Quantity | Recommended |
|-------|---------------|--------------|----------|-------------|
|-------|---------------|--------------|----------|-------------|

|          |                                                 | Specifications    |        | Ratio<br>(Trainee: Item) |
|----------|-------------------------------------------------|-------------------|--------|--------------------------|
| <b>A</b> | <b>Learning Materials</b>                       |                   |        |                          |
| 1.       | Textbooks                                       |                   | 5 pcs  | 5:1                      |
| 2.       | Installation manuals                            |                   | 5 pcs  | 5:1                      |
| 3.       | Flip Charts                                     |                   | 5 pcs  | 5:1                      |
| 4.       | PowerPoint presentations                        | For trainer's use |        |                          |
| 5.       | Magazines/brochures/business cards              |                   |        |                          |
| <b>B</b> | <b>Learning Facilities &amp; infrastructure</b> |                   |        |                          |
| 6.       | Lecture/theory room                             |                   | 1      | 25:1                     |
| 7.       | Laboratory                                      |                   | 1      | 25:1                     |
| <b>C</b> | <b>Consumable materials</b>                     |                   |        |                          |
| 8.       | Printing papers                                 |                   | 1 ream | 1:20                     |
| 9.       | Foolscaps                                       |                   | 1 ream |                          |
| 10.      | Toners/cartridges                               |                   | 2 pcs  | 13:1                     |
| 11.      | Assorted colour of whiteboard markers           |                   |        |                          |
| <b>D</b> | <b>Tools and Equipment</b>                      |                   |        |                          |
| 12.      | Computers                                       |                   | 25 pcs | 1:1                      |
| 13.      | Projector                                       |                   | 1 pc   | 25:1                     |

|     |                            |  |       |      |
|-----|----------------------------|--|-------|------|
| 14. | Printers                   |  | 2 pcs | 1:13 |
| 15. | Whiteboard                 |  | 1 pc  | 25:1 |
| 16. | Flash drives               |  | 5 pcs | 5:1  |
| 17. | 1 External Hard drive      |  | 1 pcs | 25:1 |
| 18. | Application software suite |  | 5 pcs | 5:1  |

## MODULE 2

| UNIT<br>CATEG<br>ORY | ISCED<br>UNIT<br>CODE | TVET CDACC<br>UNIT CODE    | UNITS NAME                            | DURATION<br>(HOURS<br>) |
|----------------------|-----------------------|----------------------------|---------------------------------------|-------------------------|
| CORE                 | 0612 351<br>03A       | IT/CU/ICTA/CR/03/4/MA      | Computer<br>Network<br>Setup          | 200                     |
| CORE                 | 0714 351<br>04A       | IT/CU/ICTA/CR/04/4/MA      | Computer<br>Repair and<br>Maintenance | 200                     |
|                      |                       | <b>Sub-Total</b>           |                                       | <b>400</b>              |
|                      |                       | <b>Industrial Training</b> |                                       | <b>320</b>              |
|                      |                       | <b>Total Hours</b>         |                                       | <b>720</b>              |