|  |  |
| --- | --- |
| Title | **Assemble electrical and electronic circuits** |
| Level | **2** | **Credits** | **35** |

|  |  |
| --- | --- |
| Purpose | This competency standard is intended for those who carry out electrical operations. People holding credit for this competency standard are able to: Plan and prepare for assembling; assemble electrical circuits; assemble electronic circuits; and complete work. |

|  |  |
| --- | --- |
| Classification ISCED | 0713 Electricity and energy |

|  |  |
| --- | --- |
| Available grade | Competent / Not yet competent |

|  |  |
| --- | --- |
| Modification history | N/A |

|  |  |  |
| --- | --- | --- |
| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
| **F1:** **Plan and prepare for assembling** | **P1-** Draw wiring layout**P2-** Identify, obtain and confirm material requirements**P3-** Prepare tools, equipment and materials **P4-** Prepare circuit board | **K1-** Interpretation of drawings, symbols, cable number according to load, and colour coding**K2-** Material requirements**K3-** Tools, equipment and materials required for the job**K4-** Methods of preparing |
| **F2:** **Assemble electrical circuits** | **P1-** Interpret assembly manual and circuit diagram**P2-** Install components**P3-** Perform wiring and connect electrical circuits**P4-** Carry out operational testing | **K1-** Interpretation of drawings and circuit diagrams**K2-** Installation procedures**K3-** Types of wiring, cables and joints**K4-** Testing procedures and equipment |
| **F3:** **Assemble electronic circuits** | **P1-** Design layout**P2-** Prepare PCB**P3-** Connect electronic components in PCB**P4-** Carry out operational testing | **K1-** Methods of PCB design**K2-** HNO3 acid and chemical reactions; Drilling procedure**K3-** Interpretation of drawings and circuit diagrams; Soldering**K4-** Testing procedures and equipment |
| **F4:** **Complete work** | **P1-** Complete work related documents and procedures**P2-** Perform final quality inspection**P3-** Clean up and store tools, equipment and materials | **K1-** Importance of documentation; Customer care procedures and techniques**K2-** Importance of quality; handing over to client**K3-** Waste disposal procedures; Care of tools and equipment |