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

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| 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. |

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| Classification ISCED | 0713 Electricity and energy |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

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| **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 |