

# NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 11: Install, maintain and troubleshoot low voltage <u>alternative</u> power supply systems and associated equipment			Total Hours:		64
Learning Project 6: Install power supply systems for temporary installations (e.g. fairs, circus, fetes, voting stations, exhibitions, etc.)			Total Hours:		8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		• Phase 1 completed			
Learning project description: The IEC has requested that you electrify a voting station in a tent located in Boboyi: Plan, wire, connect and test this temporary installation.					
Activity phase	Practical Skills Modules Content	Underpinning Knowledge Module Content	Work Experience Module Content (Exposure to be given)	Didactical-methodological advice	Learning materials/Tools and Equipment
Reference to QCTO Curriculum	PM-01 (PS-01, 02, 03) PM 03(PS01, 02, 03) PM-04 (PS 01, 02, 03) PM 05 (PS 01-06) PM 06 (PS1, 2)	KM-06-KT03 KM-07 (KT01,04, 05)	WM-01 (WE1-3) WM-02 (WE1-3) WM-03 (WE1-3)		
Planning/ Preparation	<b><u>Provide access to (Given):</u></b> Site layout, circuit diagrams, electrical equipment for temporary supply, relevant tools and measuring instruments as per last column, statutory requirements;  <b><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></b> <ul style="list-style-type: none"><li>Wear correct PPE</li><li>Read and interpret job instructions</li><li>Conduct risk assessment</li><li>Select the correct tools and equipment</li><li>Transport all materials and equipment safely to workstation</li></ul>	<b><u>Knowledge of:</u></b> <ul style="list-style-type: none"><li>SANS 10142 Section 7.8</li><li>Construction regulations</li><li>Fundamentals of electricity</li><li>Installing and wiring power supply for temporary installations</li><li>Protective devices, circuit breakers, earth leakage relays, protective control switch gear</li></ul>	<b><u>Under supervision:</u></b> <i>If the workplace allows for this exposure:</i>  <b>Install a power supply system for a temporary installation</b> <ul style="list-style-type: none"><li>Install and wire an electrical cabinet which includes all control and protective switch gear and socket outlets</li><li>Install and connect mains to the electrical cabinet</li><li>Conduct pre-commission inspection (power on and off) and test new installations</li></ul>	Lecture, presentations DVDs, audio-visual Group/individual work Training models	<b>Print materials, electronic files, software applications incl.:</b> <ul style="list-style-type: none"><li>Training manuals for trainers and apprentices incl. multimedia software</li><li>Set of presentation aids (videos, slides) for overhead or LED/LCD projectors</li><li>SANS 10142 Section 7.8</li></ul> <b>Tools, equipment and materials incl.:</b>  <b>Electricians toolbox</b>  <b>Materials</b> <ul style="list-style-type: none"><li>SANS 10142-8</li><li>Wiring code of practice.</li><li>Construction regulations</li></ul>
Implementation/ Execution	<ul style="list-style-type: none"><li>Install and wire an electrical cabinet which includes all control and protective switch gear and socket outlets</li><li>Install and connect mains to the electrical cabinet</li></ul>				

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	<ul style="list-style-type: none"> <li>Conduct pre-commission inspection (power on and off) and test new installations</li> </ul>				<b>Equipment</b> <ul style="list-style-type: none"> <li>Multimeter</li> <li>Insulation tester</li> <li>Phase rotation meter</li> <li>Earth leakage tester</li> <li>Electrical cabinet</li> <li>Control and protective switch gear</li> <li>Socket outlets</li> <li>Earth leakages</li> <li>Circuit breakers</li> <li>Cables and accessories</li> </ul> <b>PPE:</b> <ul style="list-style-type: none"> <li>Safety overall</li> <li>Safety boots</li> </ul>
<b>Evaluation/Documentation</b>	<ul style="list-style-type: none"> <li>Evaluates the correctness of the completed task according to drawings and/or instructions</li> <li>Report work progress to appropriate personnel</li> <li>Inspect and clean tools</li> <li>Store and secure tools and materials</li> <li>Complete applicable work documentation</li> <li>Perform housekeeping</li> </ul>				
<b>Total</b>	Hours: 8				
<b>Specialisation additions</b>	None				
<b>Assessment guidance</b>					
<ul style="list-style-type: none"> <li><b>Self assessment</b></li> <li><b>Group assessment</b></li> <li><b>Theory test</b></li> </ul> <b>Criteria for assessment:</b> <ul style="list-style-type: none"> <li>Correct PPE is worn</li> <li>Risk assessment undertaken</li> <li>Task is completed as per job card</li> <li>Correct cable size used</li> <li>Over-current devices selected are at the correct rating</li> <li>Safety procedures are followed</li> <li>Correct documentation completed</li> <li>Housekeeping is performed</li> </ul>					