

NOCC-A21 Electrician: Competence Package

<b>Relevant Occupation/trade title:</b> Electrician				<b>SAQA ID:</b> 91761	
<b>Learning Area 11: Install, maintain and troubleshoot low voltage <u>alternative</u> power supply systems and associated equipment</b>				<b>Total Hours:</b>	<b>64</b>
<b>Learning Project 5: Install power supply systems for construction &amp; demolition sites</b>				<b>Total Hours:</b>	<b>8</b>
<b>Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):</b>		<ul style="list-style-type: none"> <li>Phase 1 completed</li> </ul>			
<b>Learning project description: Extensions to a shopping centre in your area are to be done by a local contractor. You are required to install a power supply for this construction site. Plan, wire, connect and test this temporary installation.</b>					
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
<b>Reference to QCTO Curriculum</b>	PM-01 (PS-01, 02, 03) PM-02 (PS 01, 02, 03) PM-03 (PS01, 02, 03) PM-04 (PS01, 02, 03) PM-05 (PS 01-06)	KM-06-KT03 KM-07(KT01,04, 05)	WM-01 (WE1-3) WM-02 (WE1-3) WM-03 (WE1-3)		
<b>Planning/Preparation</b>	<p><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</p> <p><b><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></b></p> <ul style="list-style-type: none"> <li>Wear correct PPE</li> <li>Read and interpret job instructions</li> <li>Complete work permit</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>	<p><b><u>Knowledge of:</u></b></p> <ul style="list-style-type: none"> <li>SANS 10142 Section 7.4</li> <li>Construction regulations</li> <li>Reading and interpreting site plans</li> <li>Fundamentals of electricity</li> <li>Installing and wiring power supply for construction and demolition sites</li> <li>Protective devices, circuit breakers, earth leakage relays.</li> </ul>	<p><b><u>Under supervision:</u></b> <i>If workplace can provide this exposure:</i></p> <p><b>Install a power supply system for construction and demolition site.</b></p> <ul style="list-style-type: none"> <li>Install and wire a distribution board</li> <li>Install and connect mains to distribution board</li> <li>Conduct pre-commission inspection (power on and off) and test new and existing installations</li> </ul>	Lecture, presentations DVDs, audio-visual Group/individual work Training models	<p><b>Print materials, electronic files, software applications incl.:</b></p> <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 7.4</li> </ul> <p><b>Tools, equipment and materials incl.:</b></p> <p><b>Electrical toolbox</b></p>

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<b>Implementation/ Execution</b>	<ul style="list-style-type: none"> <li>• Install and wire a distribution board</li> <li>• Install and connect mains to distribution board</li> <li>• Conduct pre-commission inspection (power on and off) and test new and existing installations</li> </ul>				<b>Materials</b> <ul style="list-style-type: none"> <li>• SANS 10142-8</li> <li>• Wiring code of practice.</li> <li>• Construction regulations</li> <li>• Site plan</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>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>• Distribution board</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>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> <p><b>Criteria for assessment:</b></p> <ul style="list-style-type: none"> <li>• Correct PPE is worn</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>• Risk assessment undertaken</li> <li>• Correct documentation completed</li> </ul>					

- Housekeeping is performed

Work in progress