

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 11: Install, maintain and troubleshoot low voltage <u>alternative power supply systems and associated equipment</u>			Total Hours:		64
Learning Project 3: Install battery standby/uninterruptable power supply (UPS) systems			Total Hours:		8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):			<ul style="list-style-type: none"> <li>Phase 1 completed</li> </ul>		
Learning project description: Apprentices learn to install battery standby/uninterruptable power supply (UPS) systems					
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, 03) PM02 (PS01, 03) PM 03 (PS1, 2,3) PM 05 (PS 01) PM 06 (PS1, 2)	KM-06-KT03 KM-07 (KT01, 02,05) KM-08 (KT01)	WM-01 (WE1-3) WM-02 (WE1-3)		
Planning/Preparation	<p><b>Provide access to (Given):</b> Uninterruptable power supply system; conductors, wire-ways, protection devices.</p> <p><b>Apprentices must be able to do/perform the following (hard and soft) skills:</b></p> <ul style="list-style-type: none"> <li>Wear correct PPE</li> <li>Complete documentation</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>Knowledge of:</b></p> <ul style="list-style-type: none"> <li>Basic operating principles of UPS systems</li> <li>Work procedures and work documents related to installations and wiring and manufacturer's specifications</li> </ul>	<p><b>Under supervision:</b> <i>If workplace allows for this exposure:</i></p> <ul style="list-style-type: none"> <li>Install a UPS systems as per manufacturer specifications</li> <li>Conduct power on test</li> </ul>	Lecture, presentations DVDs, audio-visual Group work, Internet	<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> </ul> <p><b>Tools, equipment and materials incl.:</b> Electrical toolbox</p> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Manufactures specifications</li> </ul>
Implementation/Execution	<ul style="list-style-type: none"> <li>Install and UPS system</li> <li>Conduct a power-off test to</li> </ul>				

## NOCC-A21 Electrician: Competence Package

	<p>ensure that the installation adheres to statutory requirements</p> <ul style="list-style-type: none"> <li>• Conduct a power-on test to check the operation of the system by changing it over to alternative supply (UPS)</li> </ul>				<ul style="list-style-type: none"> <li>• Company specific work-site procedures</li> <li>• Multi-meter</li> <li>• UPS set</li> </ul> <p><b>PPE:</b></p> <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>• Test the UPS system to ensure that it is working correctly (functionality test)</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>					
<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>   <li>• Correct PPE is worn</li> <li>• Risk assessment undertaken</li> <li>• Necessary documentation completed</li> <li>• UPS system tested to ensure functionality</li> <li>• Task is completed as per job card</li> <li>• Housekeeping performed</li> </ul>					