

# NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician				SAQA ID: 91761	
Learning Area 12: <b>Identify, construct and troubleshoot basic electronic circuits</b>				Total Hours:	128
Learning Project 1: <b>Gain an overview, identify and test electronic components</b>				Total Hours:	64
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		• Phase 1 completed			
Learning project description: <b>Apprentices gain an overview, identify and test electronic components.</b>					
Activity phase	Practical Skills Modules Content	Underpinning Knowledge Module Content	Work Experience Module Content	Didactical-methodological advice	Learning materials/Tools and Equipment
Reference to QCTO Curriculum	PM-01-PS03	KM-03-KT02	WM-None		
Planning/ Preparation	<p><b><u>Provide access to (Given):</u></b> Boards with electronic components, datasheets, materials and equipment as identified in last column;</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>Identify components and explain their function</li></ul>	<p><b><u>Knowledge of:</u></b></p> <ul style="list-style-type: none"><li>Theory of conductors, semi-conductors, resistor, capacitor, inductors, diodes</li><li>Function of electronic components</li><li>Electronic symbols</li><li>Testing of electronic components</li><li>Value calculations</li><li>Use of the colour chart</li><li>Use of data sheets</li><li>Statutory requirements as per work conducted</li></ul>	<p><b><u>Under supervision:</u></b> <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none"><li>Identify and test electronic components (where applicable)</li></ul>	Lecture, presentations DVDs, audio-visual Demonstrations Practical applications	<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>Statutory requirements:</li><li>SANS 10142-Part1</li><li>Municipal by-laws</li><li>Datasheets or access to datasheets</li></ul> <p><b>Tools, equipment and materials incl.:</b></p> <ul style="list-style-type: none"><li>Measuring instruments</li></ul> <p><b>Materials:</b></p>
Implementation/ Execution <b><u>Repair</u></b>	<ul style="list-style-type: none"><li>Calculate values of the components</li><li>Use colour charts and data sheets in conjunction with electronic components</li><li>Test the electronic components</li></ul>				
Evaluation/ Documentation	<ul style="list-style-type: none"><li>Confirm values with datasheet or colour code</li><li>Document test results</li><li>Clean work area after</li></ul>				

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	completion of task in accordance with work site procedures and housekeeping standards				<ul style="list-style-type: none"> <li>Boards with electronic components:</li> <li>Resistor</li> <li>Capacitor</li> <li>Inductors</li> <li>Semi-conductor devices</li> <li>Diodes</li> <li>Colour chart</li> </ul> <p><b>PPE:</b> Safety boots</p>
<b>Total</b>	Hours: 64				
<b>Specialisation additions</b>					
<b>Assessment guidance</b>					
<ul style="list-style-type: none"> <li>Self assessment</li> <li>Group assessment</li> <li>Theory test</li> </ul> <p><b>Criteria for assessment:</b></p> <ul style="list-style-type: none"> <li>Correct identification of electronic components</li> <li>Correct value of electronic components</li> <li>Correct testing method</li> <li>Test functionality of components</li> <li>Ability to read and interpret colour chart and data sheets</li> <li>Clean worksite after completion of task and equipment returned safely to store</li> </ul>					