

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician				SAQA ID: 91761	
Learning Area 12: Identify, construct and troubleshoot basic electronic circuits				Total Hours:	128
Learning Project 2: Identify, read and interpret electronic circuit drawings and specifications				Total Hours:	8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		LA12 LP1			
Learning project description: Apprentices identify, read and interpret electronic circuit drawings and specifications.					
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-None	KM-03-KT02	WM-None		
Planning/Preparation	<p><u>Provide access to (Given):</u> Electronic circuit drawings required as per work specifications and equipment and materials as per last column;</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <p>Prepare to use electronic circuit drawings and specifications</p> <ul style="list-style-type: none">Determine the need for drawings and specifications from the characteristics of the work to be undertakenFollow established routines to obtain drawings and	<ul style="list-style-type: none">Purpose of circuit diagrams in the electronics industryConventions used in and the features of electronic circuit diagramsCommon symbols used in electronic circuit diagram (South African Drawing Standard)Electronic component parameters and component identification methodsTypes and designs of PCBs and their usageBasic types and usage of analogue and digital circuits <p>Types of electronic components in circuits</p>	<p><i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none">Read and interpret electronic circuit drawings and specifications	<p>Lecture</p> <p>Practical assignments</p> <p>Group discussion</p>	<p>Print materials, electronic files, software applications incl.:</p> <ul style="list-style-type: none">SANS Drawing StandardsSoftware to view electronic circuit drawingsElectronic circuit drawings required as per work specificationsText booksTraining manuals for trainers and apprentices incl. multimedia software

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	<p>specifications required for the work to be undertaken</p> <ul style="list-style-type: none"> • Determine job requirements from work instructions • Interpret and read job specifications • Select drawings and specifications relevant to information required • Identify connections and integrity of circuits and components to be assembled • Identify and check correct equipment for viewing and processing of drawings and specifications 	<p>include:</p> <ul style="list-style-type: none"> • Electronic wiring • Terminals • Soldering pads and joints • Switches • Lamps • Potentiometers • Relays • Diodes • Resistors • Capacitors • Transistors • Integrated circuits • Heat sinks 			<ul style="list-style-type: none"> • Set of presentation aids (videos, slides) for overhead or LED/LCD projectors <p>Stationary machinery, mobile plants, transport, access and lifting equipment incl.:</p> <ul style="list-style-type: none"> • Computer system • Printer, plotter • Scanner • Photocopy machine • Tracing light box • Flat file cabinet for blueprints/drawings <p>Measuring and testing instruments incl.:</p> <ul style="list-style-type: none"> • Acrylic Rulers • Geometry set squares • Magnifying glass
Implementation/ Execution/ Processing	<p>Interpret and use electrical schematic drawings and specifications to obtain job information</p> <ul style="list-style-type: none"> • Select drawings and specifications appropriate to the work being undertaken • Interpret drawings and specifications using knowledge of circuit layouts, component characteristics, drawing conventions and symbols • Extract components, assembly layout, connection and position arrangements from drawings and specifications for application to work • Review specifications to ascertain their format and where information relevant 				

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	to the work to be undertaken is located <ul style="list-style-type: none"> Interpret information given in specifications in relation to the work to be conducted 				
Evaluation/ Documentation/ Housekeeping	Clean up work area and store files <ul style="list-style-type: none"> Store and file drawings securely Care for tools and equipment used to view, archive, print-out or copy drawings Conduct housekeeping activities on work station 				
Total	Hours: 8				
Specialisation additions					
Assessment guidance					
Criteria for assessment: <ul style="list-style-type: none"> Correct interpretation of provided diagrams 					