

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 1: Prepare for work			Total Hours:		264
Learning Project 10: Understand and use drawings, diagrams, technical standards (SANS), codes of practice and specifications			Total Hours:		8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		LA1 - LP: 1, 2, 3, 7, 9			
Learning project description: Understand and use drawings, diagrams, technical standards (SANS), codes of practice 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: None	WM: None		
Planning/Preparation	<p><u>Provide access to (Given):</u> Various electrical work scenarios, technical drawings, electrical diagrams and SANS codes</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <p>Prepare to use drawings, diagrams, standards and codes</p> <ul style="list-style-type: none">Determine the need for drawings, diagrams, SANS standards and codes from the nature of the work to be undertakenFollow established routines and procedures to obtain drawings, schematics, diagrams, SANS standards	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none">Common electrical terminology, symbols, codes, legends and diagrammatic representationsCommon types of drawings, diagrams and schedules used in electrotechnology workPurpose and application of common types of drawings, diagrams and schedules used in electrotechnology workConventions used in and basic features of common types of drawings, diagrams and schedules used in electrotechnology workThe process of storing paper drawings and electronic drawing files <p>Common types of drawings, diagrams and schedules include:</p> <ul style="list-style-type: none">Engineering drawings	<p><u>Under supervision:</u></p> <ul style="list-style-type: none">Identify drawings, diagrams, schedules and manuals relevant to the work to be undertaken.Interpret drawings, diagrams, schedules and manuals related to different work scenariosProduce freehand drawings of work sites by using correct conventions and giving the right informationIdentify symbols found in legends on drawings to determine location of devicesLocate and cross-reference information on plans, drawings,	Lecture, presentations, You-Tube videos Practical demonstration, Practical group work Individual practice sessions under supervision	<p>Print materials, electronic files, software applications incl.:</p> <ul style="list-style-type: none">Material relevant to the reading and interpretation of engineering drawingsSANS codesEquipment, hand and power tooling appropriate to the reading and interpretation of engineering drawings

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	<p>and codes required for the work to be undertaken</p> <ul style="list-style-type: none"> • Interpret and read work specifications • Identify products/ systems/ components/ items to be fabricated/ modified/ installed/ maintained based on drawings, diagrams etc. 	<ul style="list-style-type: none"> – Architectural drawings, Building construction drawings and diagrams – Electrical circuit diagrams – Wiring diagrams <ul style="list-style-type: none"> • Role of different standards relating to SANS, International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC) • Legislative requirements for ensuring electrical or electronic equipment is safe i.e. compliance requirements of electrical installations • Purpose of technical standards and their development • Arrangement and use of technical standards in relation to electrical and electronic work • Interpretation of key points and requirements of applicable South African National Standards (SANS), related building regulations and codes of safe working of practice applicable for electricians • Methods and techniques to read and apply a standard 	specifications and contract documents		
Implementation/ Execution	<p>Interpret and use drawings, diagrams, schedules and manuals to obtain and convey work information</p> <ul style="list-style-type: none"> • Interpret drawings, diagrams, schematics and schedules using knowledge of drawing layouts, conventions and symbols • Use drawings, diagrams, schedules and manuals to convey information to others involved in the work to be undertaken • Extract dimensions from drawings and diagrams for application to work undertaken • Determine location of equipment from equipment schedules and location diagrams <p>Review and apply SANS standards and codes of practice</p> <ul style="list-style-type: none"> • The format of compliance Standards and Codes that apply to particular 				

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	disciplines are reviewed and understood <ul style="list-style-type: none"> • Relevant SANS standards are assessed against work assignments 				
Evaluation/ Documentation	Clean up work area and store files <ul style="list-style-type: none"> • Clean equipment and work area • Identify and report unserviceable equipment • Store drawings appropriately 				
Total	Hours: 8				
Specialisation additions					
Assessment guidance					
Criteria for Assessment <ul style="list-style-type: none"> • Correct identification of drawings, diagrams, schedules and manuals relevant to the work to be undertaken. • Obtaining compliance standards and codes applicable to particular work assignments?? • Reviewing and understanding the format of compliance standards and codes that apply to particular work assignment 					