

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 5: Install wiring systems and accessories (low voltage) in domestic buildings and premises (incl. earthing and bonding)			Total Hours:		128
Learning Project 6: Install internal and external single phase circuits to fixed appliances and equipment (e.g. stoves, geysers, swimming pool pumps/heaters, HVAC, electrical gates, etc.)			Total Hours:		16
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		LA 5 – LP5			
Learning project description: Internal and external single-phase circuits to other points of consumption (e.g. stoves, geysers, swimming pool pump, HAAV, electrical gates, etc.) installation specifications should be completed in a domestic building and premises. Determine the system specifications, plan, mount and hand over the installation system for each selected room					
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-05-PS01, PM-05-PS02, PM-05-PS04, PM-05-PS05-06, PM-06-PS01-02 PM-07-PS01-03 PM-08-PS01-05	KM-03-KT03 KM-05-KT01 KM-05-KT02 KM-05-KT03	WM-01-WE01-03 WM-02-WE01-03 WM-03-WE01-03		
Planning/ Preparation	<p><u>Provide access to (Given):</u> Work tasks/job requests and material and equipment as specified in last column;</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <p>Prepare for the installation of single phase circuits to fixed appliances</p> <ul style="list-style-type: none">Identify, obtain and understand statutory requirements for a given work area	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none">Names and functions of internal and external single phase circuits to other points of consumptions and componentsRegulations SANS 10142-1 related to fixed appliancesSize of conductorsRating of isolators and associated control devices	<p><u>Under supervision:</u></p> <ul style="list-style-type: none">Develop work plans for of internal and external single phase circuits to other points of consumptions in the houseInitially perform preparatory works under direct and constant supervision of a qualified ElectricianUndertake all preparatory installation	<ul style="list-style-type: none">Self-study assignmentsUsing of internet sources, text books and work sheetsInstructionObservation method	<p>Print materials, electronic files, software applications incl.:</p> <ul style="list-style-type: none">OHS ActSANS 10142-1Text booksManuals for trainers and apprentices incl. multimedia softwareSet of presentation aids (videos, slides) for overhead or LED/LCD projectors

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	<ul style="list-style-type: none"> Identify health and safety risks and follow established risk control measures and procedures in preparation for the work Prepare installation in consultation with others affected by the work Determine the scope and location of the work to be undertaken from documentation Plan the locations for points of consumption of fixed appliances, machines, switchgear and accessories within the constraints of the building structure and surrounding premises Identify and check material needed for the installation against job requirements Identify and check tools, equipment and measuring devices needed for the installation work 		<p>activities without assistance but regular supervision</p> <ul style="list-style-type: none"> Perform internal and external single phase circuits to other points of consumptions installations in ceilings/walls/floors under direct and constant supervision until competent Install internal and external single phase circuits to other points of consumptions without assistance but regularly supervised 		<p>Access equipment incl.:</p> <ul style="list-style-type: none"> Ladders <p>Hand- & power tools and PPE incl.:</p> <ul style="list-style-type: none"> Standard electrician's toolbox <p>Measuring and testing instruments incl.:</p> <ul style="list-style-type: none"> Measuring tape Continuity tester <p>Training workshop and laboratory equipment incl.:</p> <ul style="list-style-type: none"> Installation cabins/ cubicles Set of various domestic appliances for fixed installations including but not limited to stoves, geysers, HVAC, pool pumps, electric gate motors, garage door motors, shutter motors Set of consumables consisting of wire enclosures, trunking, cables Set of reusable indoor and outdoor, flush and surface
Implementation/ Execution	<p>Install single phase circuits to fixed appliances and equipment</p> <ul style="list-style-type: none"> Follow risk control measures and procedures for carrying out the work Install fixed appliances/machinery straight and square in the required locations and within acceptable tolerances Install cable or wire ways from point of consumption to fixed appliance/machinery Terminate wiring at appliances, switchgear and accessories in 				

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	<p>accordance with manufacture's specifications and functional and regulatory requirements</p> <ul style="list-style-type: none"> • Assemble/position and secure wiring enclosures/ trunking /support systems from point of consumption to fixed appliance/machinery • Undertake inspection of the installed appliances, switchgear and accessories • Carry out installation efficiently without unnecessary waste of materials or damage to circuits, fixed appliances, machines, the surrounding environment 				mounted junction boxes, control gear and switchgear enclosures, for various IP ratings
Evaluation/ Documentation	<p>Complete the installation and conduct housekeeping activities</p> <ul style="list-style-type: none"> • Communicate completion of job to appropriate personnel • Store and care for tools and safety equipment • Complete work documentation • Clean work site and make it safe 				
Total	Hours: 16				
Specialisation additions					
Assessment guidance					
<p>Criteria for assessment:</p> <ul style="list-style-type: none"> • Fixed appliances and control devices connected according to manufacturers specifications and complying with SANS-10142-1 • Circuits correctly connected, mechanically tight and neatly loomed to protection and control devices • Relevant tools and equipment were used according to job specifications and statutory requirements • Worksite was left neat and tidy 					

Work in progress