

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician			SAQA ID: 91761		
Learning Area 1: Prepare for work			Total Hours:		264
Learning Project 6: Participate in energy efficient, environmental friendly and economic work practices			Total Hours:		16
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		LA 1 - LP 1,2,5			
Learning project description: Understanding energy resources and the environmental impact. Participate in energy efficient, environmental friendly and economic work practices					
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> Work scenarios requiring environmental considerations and materials/equipment as per last column</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <p>Investigate current work practices in relation to resource usage</p> <ul style="list-style-type: none">Assess level of energy usage and saving steps for a given scenarioCalculate the cost involved in resource usage minimisationDetermine impact of effected changes over time	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none">The greenhouse effect – causes and consequencesInternational and national greenhouse imperativesSustainable energy principals and generation technologiesRenewable energy resourcesMethods for measuring and calculating resource usageConcepts of sustainable work practice (Refer back to importance of planning LA1 LP5)Economic benefits of sustainable initiatives	<p><u>Under supervision:</u> <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none">Contribute to the identification, prevention and minimisation of environmental risksSupport the selection of suppliers with improved environmental performance and energy saving product spectrumIdentify resource	<ul style="list-style-type: none">Case studies /scenariosGroup workDesk study	<ul style="list-style-type: none">Documented policies and procedures related to resource usageWork plans to minimise waste, increase efficiency of water/energy use, minimise environmental hazardsDocumentation in relation to production, waste, overheads, hazard control/ management

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Implementation/ Execution	Consider and comply with environmental considerations: <ul style="list-style-type: none"> Communicate own contribution to environmental improvements Determine the roles and responsibilities of an Electrician, the South African society at large and a domestic household in positively impacting on the greenhouse effect; Document energy consumption per person per month for a building by using climatic zones and energy consumption tables supplied by SANS 204; Identify potential harmful effects to the environment associated with workplace operations; Identify environmentally friendly waste treatment/disposal for different substances 	<ul style="list-style-type: none"> Relevant environmental and resource efficiency issues specific to electrical industry practices Effects of neglecting sustainable work practices Philosophy of prevention, reuse, reduce, recycle Characteristics and potential environmental impact of products Trade related green technologies and methods (overview only) Potential harmful effects to the environment associated with workplace operations Environmental hazards/risks, resource use and inefficiencies associated with own workplace (at an appropriate level) Principals and concepts of sustainability Economic work practices and procedures 	<ul style="list-style-type: none"> inefficiencies on work sites Prevent unnecessary waste in work processes Dispose of work-related waste in environmentally friendly manner Handle used hazardous and toxic substances with great care and in line with relevant regulations to minimise environmental damage Adhere to appropriate enterprise procedures for environmental-friendly work practices Make more efficient use of energy, water and other resources 		<ul style="list-style-type: none"> Text books Videos Internet sources SANS 204 Catalogues from green technology manufacturers
Evaluation/ Documentation	<ul style="list-style-type: none"> Evaluate own responses to given work assignments against model answers Perform basic housekeeping of work station 				
Total	Hours: 16				
Specialisation additions					
Assessment criteria					
Criteria for assessment: <ul style="list-style-type: none"> Calculations and economic improvements to given scenarios Appropriately identified situations likely to lead to an environmental incident Correctly identified environmentally friendly waste treatment/disposal for different substances 					

Work in progress