

NOCC-A21 Electrician: Competence Package

Relevant Occupation/trade title: Electrician				SAQA ID: 91761	
Learning Area 14: Understand building automation systems (smart house)				Total Hours:	16
Learning Project 1: Understand the benefits and available technology for building automation systems (incl. Climate Control, Hot Water, Lighting, Shading, Security, Irrigation, InterCom, Entertainment...)				Total Hours:	8
Requisite learning areas/projects to be in place (Pre-requisite and co-requisite):		<ul style="list-style-type: none"> • Phase 2 completed • LA13 new PLCs 			
Learning project description: Apprentices understand the benefits and available technology for building automation systems (incl. Climate Control, Hot Water, Lighting, Shading, Security, Irrigation, InterCom, Entertainment...).					
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-None	KM-None	WM-None		
Planning/Preparation	<p><u>Provide access to (Given):</u> Case study scenarios requiring smart solutions (mainly energy/ressource savings), materials and equipment as identified in last column;</p> <p><u>Apprentices must be able to do/perform the following (hard and soft) skills:</u></p> <ul style="list-style-type: none"> • Read and interpret the case study scenario • Identify possible building automation solutions • Analyse the advantages of each solution 	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none"> • Available technologies in building automation • Benefits of each of the technologies for the individual and the environment as such • Costs related to building automation • Basic cost-benefit analysis around building automation • SANS 10142-1 	<p><u>Under supervision:</u> <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none"> • Obtain an overview of building automation products in which the company is involved in and their benefits 	Lecture, presentations DVDs, audio-visual, youtube Demonstrations (also through Suppliers)	<p><u>Print materials, electronic files, software applications incl.:</u></p> <ul style="list-style-type: none"> • Training manuals for trainers and apprentices incl. multimedia software • Set of presentation aids (videos, slides) for overhead or LED/LCD projectors • Statutory requirements: • SANS 10142-Part1 • Municipal by-laws • Catalogues with building automation technology (access through internet)
Implementation/Execution Repair	<ul style="list-style-type: none"> • Perform a basic cost benefit calculation related to the solutions 				

NOCC-A21 Electrician: Competence Package

Evaluation/ Documentation	<ul style="list-style-type: none"> Record the appropriate solutions to given scenarios Clean work area after completion of task 				Tools, equipment and materials incl.: <ul style="list-style-type: none"> NONE Materials: <ul style="list-style-type: none"> NONE PPE: <ul style="list-style-type: none"> Safety overall Safety boots
Total	Hours: 8				
Specialisation additions					
Assessment guidance					
<ul style="list-style-type: none"> Self assessment Group assessment Theory test Criteria for assessment: <ul style="list-style-type: none"> Cost benefit analysis performed under consideration of correct factors Benefits of building automation identified 					