

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 2: Understand planning and installation of 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 • LA14 LP1 			
Learning project description: Apprentices understand the planning and installation of 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 installation of smart solutions (mainly energy/ressource savings), basic electrical drawings, 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> <p>Let them plan a basic case conventional vs smart installation</p> <ul style="list-style-type: none"> • Read and interpret the case study scenario • Identify possible building automation solutions 	<p><u>Knowledge of:</u></p> <ul style="list-style-type: none"> • Factors to consider when planning and installing building automations systems • Basic differences in project planning conventional vs. smart installations • Component functions • The role and responsibility of Electricians in installing and commissioning building automation products • SANS 10142-1 	<p><u>Under supervision:</u> <i>If the workplace allows for this exposure:</i></p> <ul style="list-style-type: none"> • Assist in the planning the installation of building automation products in which the company is involved in 	Lecture, presentations DVDs, audio-visual, youtube Demonstrations (also through Suppliers)	<p>Print materials, electronic files, software applications incl.:</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) • Basic electrical
Implementation/	<ul style="list-style-type: none"> • Plan the installation both 				

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Execution Repair	conventional and smart (workplan) <ul style="list-style-type: none"> Perform a cost comparison between the two installations 			drawing <ul style="list-style-type: none"> Case study scenarios
Evaluation/ Documentation	<ul style="list-style-type: none"> Record the solutions and workplans to given scenarios Identify the benefits of each installation (conventional vs smart) 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 hours		Min. Weeks: working day overall	
Specialisation additions				
Assessment guidance				
<ul style="list-style-type: none"> Self assessment Group assessment Theory test <p>Criteria for assessment:</p> <ul style="list-style-type: none"> Content of work plan and steps considered Differences between conventional and smart installations correctly identified Cost comparison between conventional and smart 				