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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED UNIT STANDARD:

Operate heavy crane

SAQA US ID	UNIT STANDARD TITLE			
242982	Operate heavy crane			
ORIGINATOR		ORIGINATING PROVIDER		
SGB Transport and Logistics Operations				
QUALITY ASSURING BODY				
-				
FIELD			SUBFIELD	
Field 11 - Services			Transport, Operations and Logistics	
ABET BAND	UNIT STANDARD TYPE	PRE-2009 NQF LEVEL	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	NQF Level 03	14
REGISTRATION STATUS		REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Reregistered		2012-07-01	2015-06-30	SAQA 0695/12
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2016-06-30		2019-06-30		

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This unit standard does not replace any other unit standard and is not replaced by any other unit standard.

PURPOSE OF THE UNIT STANDARD

The person credited with this unit standard is able to identify the safety and suitability of crane type prior to utilisation while applying methods of inspecting and recording the operational fitness of all components of the crane. Learners are also able to operate heavy cranes in a safe and competent manner.

The qualifying learner is capable of:

- Identifying the safety and suitability of crane type prior to utilisation thereof, giving consideration to freight characteristics, equipment manufacturers requirements and environmental conditions.
- Applying the recognised methods for inspecting and recording the operational fitness of all components of the crane with reference to safety procedures in the workplace.

- Operating the heavy crane in a safe and competent manner.
- Accessing available support and emergency services in the case of incidents and accidents.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

It is assumed that learners accessing this unit standard will have demonstrated competence in:

- Communication at NQF Level 2 or equivalent.
- Mathematical Literacy at NQF Level 2 or equivalent.
- Crane operators that drive on Public Roads will require the relevant driver's license, in accordance with the National Road Traffic Act requirements.
- The operator must be declared physically fit and have passed an eyesight test (such as the Orthorator test, the Purdue University Test No. 3, etc.), or a current PrDP, as well as industry recognised depth perception, speed of reflexes and hand-eye co-ordination tests, prior to commencement of training.

UNIT STANDARD RANGE

The applied competence expressed in this standard covers one specific crane of a range of heavy crane types (capacity and functionality) used in familiar operational functions in any industry context, and in a range of environmental conditions (e.g. poor weather).

Cranes shall include:

- Gantry Crane:
 - > Overhead Pendant Controlled.
 - > Overhead Infrared Controlled.
 - > Overhead Radio Controlled.
 - > Overhead Cab controlled.
 - > Block and tackle.
- Mobile Crane:
 - > Truck mounted crane.
 - > Hydraulic mobile crane.
 - > Hydraulic crane pick up and carry crane.
 - > Lattice boom mobile crane.
 - > Crawler crane.
- Jib Crane:
 - > Floating crane.
 - > Tower cranes (top slewing and bottom slewing).
 - > Dock cranes.
 - > Ship-mounted crane.
 - > Straddle carrier.
 - > Container stacker.

Attachments shall include:

- P: Fly Jib.
- Q: Boom Extension.
- R: Counterweight Options.
- S: Tandem Lifts.
- T: Special Categories.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Identify the safety and suitability of crane type prior to utilisation thereof, giving consideration to freight characteristics, equipment manufacturers' requirements and environmental conditions.

ASSESSMENT CRITERIA**ASSESSMENT CRITERION 1**

Safety and suitability of crane types prior to utilisation is identified according to crane requirements.

ASSESSMENT CRITERION 2

Statutory regulations, and equipment manufacturers' requirements are identified and explained with examples.

ASSESSMENT CRITERION 3

Different type of cranes are listed and their purpose explained with examples.

SPECIFIC OUTCOME 2

Apply the recognised methods for inspecting and recording the operational fitness of all components of the crane with reference to safety procedures in the workplace.

ASSESSMENT CRITERIA**ASSESSMENT CRITERION 1**

Measures used to identify and prevent basic faults of heavy cranes are identified and listed according to safety procedures.

ASSESSMENT CRITERION 2

Operational fitness of all components are inspected according to manufacturers checklist.

ASSESSMENT CRITERION 3

Operational fitness of crane components are recorded according to organisational policies and procedures.

SPECIFIC OUTCOME 3

Operate the heavy crane in a safe and competent manner.

ASSESSMENT CRITERIA**ASSESSMENT CRITERION 1**

Heavy cranes are operated in a safe and competent manner.

ASSESSMENT CRITERION 2

Dangerous situations arising in various conditions are identified and explained with examples.

ASSESSMENT CRITERION RANGE

Dangerous situations could include but are not limited to: weather, noise, lighting conditions, load swings, shock loading, visibility.

ASSESSMENT CRITERION 3

The purpose of the various controls are explained in accordance with manufacturer's specifications.

SPECIFIC OUTCOME 4

Access available support systems and emergency services in case of incidents and accidents.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Support systems and emergency services are sourced in case of incidents and accidents according to organisational procedures.

ASSESSMENT CRITERION 2

The most appropriate course of action is explained in relation to safe working practices and procedures.

ASSESSMENT CRITERION 3

The most appropriate course of action is explained in relation to safe working practices and potential hazards in the working environment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

- An individual wishing to be assessed (including through RPL) against this unit standard may apply to an assessment agency, assessor or provider institution accredited by the relevant ETQA.
- Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard or assessing this unit standard must be accredited as a provider with the relevant ETQA.
- Moderation of assessment will be conducted by the relevant ETQA at its discretion.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

The following embedded knowledge is addressed in an integrated way in the unit standard:

- The differences in range, structure, function and capacity between LIGHT and HEAVY cranes
- The requirement for certification which verifies the safety of the crane, as defined in legislation (Driven Machinery Regulation 18) by a "competent authority".
- The pre-operational and operational and 'close down' checks for the components of the specific heavy crane.
- The principles of lifting weights and the variances of safe capacities according to load chart and/or range diagrams (e.g. Manufacturer's specifications).
- Safe and correct slinging methods that can be used with package types normally dealt with by HEAVY cranes.
- Knowledge of pre-trip inspection, operating, shut down and parking of equipment.
- Handling equipment capacity, rating and operation i.e. using the correct equipment for the correct mass, as well as the principles of operation.
- Safety precautions in operating the equipment for particular product types.
- Safety measures, and in the event of incidents and accidents, procedures to be followed.
- The relevant national and international standards, codes and legislation pertaining to the selected area of specialisation.

> Codes:

> IMDG code.

> Regulations/legislation:

> OHS Act.

> Environmental control regulations e.g. on lead control, asbestos.

> Air pollution legislation.

> Emergency procedures as reflected in legislation.

> Customs and international regulations requirements related to HG logistics.

> Standards:

> ISO 9002/9004.

UNIT STANDARD DEVELOPMENTAL OUTCOME

N/A

UNIT STANDARD LINKAGES

N/A

Critical Cross-field Outcomes (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identify and solve problems using critical and creative thinking when analysing the load chart/range diagram to ensure the correct selection of lifting equipment, for a safe lifting operation.

UNIT STANDARD CCFO COLLECTING

Collect, analyse, organise and critically evaluate knowledge of various load weight, size and type for the purpose of selecting and utilising the most appropriate (safe and efficient) method of operating.

UNIT STANDARD CCFO DEMONSTRATING

Demonstrate initiative in selecting the most appropriate gear and equipment dependent on crane types, freight characteristics and environmental conditions.

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

	ID	QUALIFICATION TITLE	PRE-2009 NQF LEVEL	NQF LEVEL	STATUS	END DATE	QUALITY ASSURING BODY
Elective	48794	National Certificate in Quality Checking of Tyres and Tyre Components	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	71989	National Certificate: Automotive Components: Manufacturing and Assembly	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	58862	National Certificate: Electro-Mechanical Winding	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	58720	National Certificate: Engineering Fabrication	Level 3	NQF Level 03	Reregistered	2015-06-30	As per Learning Programmes recorded against this Qual
Elective	64829	National Certificate: Lifting Machine Operations	Level 3	NQF Level 03	Reregistered	2015-06-30	TETA
Elective	23255	National Certificate: Mechanical Engineering: Fitting and Machining	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	91926	National Certificate: Mechanical Engineering: Machining and	Level 3	NQF Level 03	Reregistered	2015-06-	As per Learning Programmes recorded against

		Tooling				30	this Qual
Elective	67609	National Certificate: Mechatronics	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	79666	National Certificate: Metal and Engineering Manufacturing Processes	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	64190	National Certificate: Metals Production	Level 3	NQF Level 03	Reregistered	2015-06-30	As per Learning Programmes recorded against this Qual
Elective	49449	National Certificate: Plastics Manufacturing	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	36155	National Certificate: Polymer Composite Fabrication	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	79407	National Certificate: Polymer Compound Manufacturing	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	21012	National Certificate: Power and Telecommunication Cable Manufacturing	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	24217	National Certificate: Thermoplastic Fabrication	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	48798	National Certificate: Tyre and Tyre Component Manufacturing	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	48795	National Certificate: Tyre Assembly	Level 3	NQF Level 03	Reregistered	2015-06-30	MERSETA
Elective	57886	National Certificate: Welding Application and Practice	Level 3	NQF Level 03	Reregistered	2015-06-30	As per Learning Programmes recorded against this Qual

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS UNIT STANDARD:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body should be notified if a record appears to be missing from here.

1. Africa Training Centre
2. Culmen Western Cape
3. Durban Driver Training Centre
4. Dynalift cc
5. He and She Driver Training Centre
6. Indaba Training
7. Insimbi Engineering & Training

8. Juan-Tech Training Centre
9. Lifting Operator Training Centre cc
10. M & M Training & Rigging
11. Perfect People Solutions
12. Pro - Con Skills Centre
13. Rainbow Skills Development Centre
14. SA French LTD
15. Salestalk 88 (Pty) Ltd T/A Concord Skills and Training
16. SASOL GLOBAL LEARNING
17. The Skills Matrix
18. Thuthukisa Training
19. Toyota Forklift t/a Saficon Industrial Equipment
20. Wheelman S A

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