



Accredited Provider
The Skills College for Development and Training (Pty)Ltd.

National Certificate: Construction: Advanced Plant Operations

Qualification ID 49081–NQF 3; 123 Credits

INTRODUCTION

Purpose:

This Qualification is intended to assist all relevant stakeholders and role-players:

Civil & Building Construction companies

Plant Hire

Forestry

Material Handling

Mining

Plant manufacturers

For those who have been in the workplace for a long time, this Qualification can be used in the recognition of prior learning process to assess and recognise workplace skills acquired without the benefit of formal education and training.

For the new entrant, this Qualification describes the advanced learning outcomes required to participate effectively in a structured workplace.

For education and training providers, this Qualification provides guidance for the development of appropriate learning programmes and assessment documentation.

For employers, this Qualification enables skills gaps to be identified and addressed ensuring that productivity levels are increased and business objectives achieved.

This Qualification has been developed to assist with the advancement of the learner across the Civil Engineering and Construction Industry and is aimed at Advanced Construction Plant Operations practitioners in the Industry, ensuring the upliftment of standards in general.

The combination of learning the outlined outcomes will provide the qualifying learner with vocational knowledge and skills appropriate to the context of Construction Plant Operations in the Civil Engineering and Construction environment. It will also equip learners with a foundation for further intellectual development, opportunities for gainful employment and reward for contributions to society.

This Qualification will provide the Industry with qualified Advanced Construction Plant Operations practitioners, thereby facilitating social and economic transformation, empowerment and upliftment in the Industry and country in general.

The relationship between this Qualification and the principles of the NQF is outlined below:

NQF Principles

1. Recognition of Prior learning
2. Credibility
3. Relevance
4. Access
5. Articulation/Progression

National certificate in advanced plant operations - NQF Level 3

1. Allows for Recognition of Prior Learning, especially as a means of career advancement
2. Learning Outcomes are a result of consensus by the Industry
3. Consulting workshops indicated a demand for a Unit Standard based Qualification in Construction Plant Operations
4. Removes traditional barriers to Higher Education
5. Forms part of a Learning Pathway for Construction Plant Operations, spanning NQF Levels 1 – 4

Rationale for the qualification:

This Qualification has been developed for the Construction Plant occupational area within the Civil Engineering and Construction Industry.

The rationale for the introduction of a NQF Level 3 Unit Standard based Qualification in Construction Operations is to provide a qualification for persons who perform construction plant activities on Civil Engineering and Construction sites, whether in micro, small, medium or large operations.

The introduction of a Unit Standard based National Certificate in Construction: Plant Advanced Operations will allow learners, both unemployed and employed, to reach their full potential of advancement and will allow for Recognition of Prior Learning.

This qualification will facilitate the development of a professional community of Construction Plant Operators with advanced competency skills.

The competencies contained in this Qualification are essential for social and economic transformation, empowerment and upliftment within the construction plant operations environment, whilst simultaneously improving the advanced skills base of the country.

The combination of learning outcomes will provide qualifying learners with applied competence in the integration of general construction site work and technical competencies, as well as areas of advanced specialisation in construction plant operations.

This Qualification lays the basis for further learning towards the National Certificate in Construction: Plant Supervision - NQF Level 4

The learning pathway for Construction Plant Operations consists of the following Qualifications:

NQF Level 1: National Certificate in Construction: Small Plant Operations

NQF Level 2: National Certificate in Construction: Plant Operations

NQF Level 3: National Certificate in Construction: Advanced Plant Operations
NQF Level 4: National Certificate in Construction: Plant Supervision

Key Work Areas

Earthworks

Roads

Open Cast Mining

Hiring / Services Industry

LEARNING ASSUMED TO BE IN PLACE

It is assumed that a learner entering a programme leading to this Qualification has successfully completed a Level Certificate including, Communication and Mathematics at NQF Level 2.

Recognition of Prior Learning:

The Qualification may be obtained in part or in whole through the process of Recognition of Prior Learning. Learners who successfully meet the requirements of any Unit Standard in this Qualification may apply to the relevant body for Recognition of Prior Learning (RPL) assessment. RPL candidates will be assessed against the assessment criteria and specific outcomes contained in the relevant Unit Standard/s..

EXIT LEVEL OUTCOMES

Exit Level Outcome 1: Communicate in a variety of ways (Core 22)

Associated unit standards:

Fundamental (20 credits)

Accommodate audience and context needs in oral communication

Interpret and use information from texts

Write texts for a range of communicative contexts

Use language and communication in occupational learning programmes

Core (22 credits)

Maintain records for civil construction sites

Read and interpret construction drawing and specifications

Procure Materials, Tools and Equipment

Exit Level Outcome 2 : Use mathematics in real life education training and development

Associated unit standards:

Fundamental (19 credits)

Demonstrate understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations

Use mathematics to investigate and monitor the financial aspects of personal and business issues

Investigate life and work related problems using data and probabilities

Work with a wide range of patterns and basic functions and solve related problems

Describe, apply, analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts

Core (8 credits)

Calculate Construction Quantities to develop a work plan.

Exit Level Outcome 3: Conduct advanced bulk earthworks movement operations

Associated unit standards:

Core (40 credits)

- Perform basic fire fighting
- Handle, transport, store and utilize hazardous materials on a construction site
- Work in confined spaces on a construction site
- Implement roadside safety procedures
- Perform basic fire fighting
- Describe and Interpret the Composition, Construction Sequence and Processes of the Construction Industry
- Identify describe and use materials in civil engineering construction
- Demonstrate and understanding of the principles of the construction of Layerworks

Elective (188)

- Conduct Advanced Articulated Dump Truck Operations
- Conduct Advanced Dragline Operations
- Conduct Advanced Face Shovel Operations
- Conduct Advanced Front End Loader Operations
- Conduct Advanced Hydraulic Excavator Operations
- Conduct Advanced Scraper Operations
- Conduct Advanced Tip Truck Operations
- Conduct Advanced Tracked Dozer Operations
- Conduct Advanced Wheeled dozer Operations
- Conduct Advanced Front End Loader Operations

Exit Level Outcome 4: Conduct advanced layerworks operations

Associated unit standards:

Core (40 credits)

- Perform basic fire fighting
- Handle, transport, store and utilize hazardous materials on a construction site
- Work in confined spaces on a construction site
- Implement roadside safety procedures
- Perform basic fire fighting
- Describe and Interpret the Composition, Construction Sequence and Processes of the Construction Industry
- Identify describe and use materials in civil engineering construction
- Demonstrate and understanding of the principles of the construction of Layerworks

Elective (150 credits)

- Conduct Advanced Grader Operations
- Conduct Advanced Scraper Operations
- Conduct Advanced Articulated Dump Truck Operations
- Conduct Advanced Tip Truck Operations
- Conduct Advanced Tracked Dozer Operations
- Conduct Advanced Wheeled dozer Operations
- Conduct Advanced Front End Loader Operations
- Conduct Advanced Tractor Operations
- Conduct Advanced Water Cart Operations
- Conduct Advanced Roller Operations

Exit Level Outcome 5: Conduct advanced surfacing operations (Core 40, Elective 67)

Associated unit standards:

Core (40 credits)

- Perform basic fire fighting

Handle, transport, store and utilize hazardous materials on a construction site
Work in confined spaces on a construction site
Implement roadside safety procedures
Perform basic fire fighting
Describe and Interpret the Composition, Construction Sequence and Processes of the Construction Industry
Identify describe and use materials in civil engineering construction
Demonstrate and understanding of the principles of the construction of Layerworks

Elective (67 credits)

Conduct Advanced Roller Operations
Conduct Advanced Tip Truck Operations
Conduct Advanced Milling Machine Operations
Conduct Advanced Paving Screed Operations
Conduct Advanced Rigid Body Dump Truck Operations
Conduct Advanced Road Rehabilitation Machine Operations
Conduct Advanced Hot Mix Asphalt Paving Machine Operations
Conduct Advanced Bitumen Spray Equipment Operations

Exit Level Outcome 6: Conduct advanced trenching operations

Associated unit standards:

Core (40 credits)

Perform basic fire fighting
Handle, transport, store and utilize hazardous materials on a construction site
Work in confined spaces on a construction site
Implement roadside safety procedures
Perform basic fire fighting
Describe and Interpret the Composition, Construction Sequence and Processes of the Construction Industry
Identify describe and use materials in civil engineering construction
Demonstrate and understanding of the principles of the construction of Layerworks

Elective (72 credits)

Conduct Advanced Backhoe/Loader Operations
Conduct Advanced Hydraulic Excavator Operations
Conduct Advanced Continuous Bucket Trencher Operations
Conduct Advanced Sideboom Operations
Conduct Advanced Skid Steer Loader Operations.

TIME PERIOD

This Learnership can be presented over a period of 12 months

A SELECTION OF THE FOLLOWING UNIT STANDARDS WILL BE COMPLETED IN ORDER TO REACH 123 CREDITS:

UNIT STANDARDS:

	ID	UNIT STANDARD TITLE	PRE-2009 NQF LEVEL	NQF LEVEL	CREDITS
Core	14560	Handle, transport, store and utilize hazardous materials on a civil construction site	Level 2	NQF Level 02	5
Core	13972	Identify describe and use materials in civil engineering construction	Level 2	NQF Level 02	4
Core	14561	Implement roadside safety procedures	Level 2	NQF Level 02	2
Core	14336	Maintain records on a construction site	Level 2	NQF Level 02	2
Core	12484	Perform basic fire fighting	Level 2	NQF Level 02	4
Core	12483	Perform basic first aid	Level 2	NQF Level 02	4
Core	15034	Work in confined spaces on construction sites	Level 2	NQF Level 02	2
Core	9962	Calculate construction quantities to develop a work plan	Level 3	NQF Level 03	8
Core	117040	Demonstrate an understanding of the principles of bulk earthworks construction	Level 3	NQF Level 03	10
Core	117039	Demonstrate an understanding of the principles of the construction of layerworks	Level 3	NQF Level 03	10
Core	9968	Procure materials, tools and equipment	Level 3	NQF Level 03	6
Core	14580	Read and interpret construction drawings and specifications	Level 3	NQF Level 03	10
Fundamental	8968	Accommodate audience and context needs in oral communication	Level 3	NQF Level 03	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	NQF Level 03	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	NQF Level 03	4
Fundamental	8969	Interpret and use information from texts	Level 3	NQF Level 03	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	NQF Level 03	5

Fundamental	8973	Use language and communication in occupational learning programmes	Level 3	NQF Level 03	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	NQF Level 03	5
Fundamental	8970	Write texts for a range of communicative contexts	Level 3	NQF Level 03	5
Elective	230000	Perform a limited range of rope access tasks and rescues	Level 2	NQF Level 02	6
Elective	117015	Conduct advanced articulated dump truck operations	Level 3	NQF Level 03	16
Elective	117006	Conduct advanced backhoe / loader operations	Level 3	NQF Level 03	20
Elective	116997	Conduct advanced bitumen spray equipment operations	Level 3	NQF Level 03	5
Elective	116983	Conduct advanced continuous bucket trencher operations	Level 3	NQF Level 03	8
Elective	117013	Conduct advanced dragline operations	Level 3	NQF Level 03	8
Elective	117019	Conduct advanced face shovel operations	Level 3	NQF Level 03	24
Elective	116990	Conduct advanced front end loader operations	Level 3	NQF Level 03	16
Elective	116992	Conduct advanced grader operations	Level 3	NQF Level 03	26
Elective	117031	Conduct advanced hot mix asphalt paving machine operations	Level 3	NQF Level 03	8
Elective	117011	Conduct advanced hydraulic excavator operations	Level 3	NQF Level 03	20
Elective	117014	Conduct advanced milling machine operations	Level 3	NQF Level 03	8
Elective	116996	Conduct advanced paving screed operations	Level 3	NQF Level 03	6
Elective	117037	Conduct advanced rigid body dump truck operations	Level 3	NQF Level 03	16
Elective	117035	Conduct advanced road rehabilitation machine operations	Level 3	NQF Level 03	8
Elective	117032	Conduct advanced roller operations	Level 3	NQF Level 03	8
Elective	117030	Conduct advanced scraper operations	Level 3	NQF Level 03	20

Elective	117036	Conduct advanced sideboom operations	Level 3	NQF Level 03	8
Elective	117038	Conduct advanced skid steer loader operations	Level 3	NQF Level 03	16
Elective	117034	Conduct advanced tip truck operations	Level 3	NQF Level 03	16
Elective	117020	Conduct advanced tracked dozer operations	Level 3	NQF Level 03	24
Elective	117010	Conduct advanced tractor operations	Level 3	NQF Level 03	6
Elective	117012	Conduct advanced water cart operations	Level 3	NQF Level 03	6
Elective	117028	Conduct advanced wheeled dozer operations	Level 3	NQF Level 03	20
Elective	117072	Extract timber to a landing using a cable skidder in a production situation	Level 3	NQF Level 03	20
Elective	117074	Extract timber to a landing using a grapple skidder in a production situation	Level 3	NQF Level 03	25
Elective	115831	Foster and maintain customer service levels and relations	Level 3	NQF Level 03	4
Elective	117052	Prepare, operate and maintain a 3-wheeled loader in a non-production situation	Level 3	NQF Level 03	5
Elective	229994	Assess a worksite for work at height and prepare a fall protection plan	Level 4	NQF Level 04	3
Elective	116575	Demonstrate an understanding of and apply hiring business practices	Level 4	NQF Level 04	4
Elective	117045	Extract timber to a landing using a forwarder in a production situation	Level 4	NQF Level 04	35
Elective	117065	Fell and bunch trees using a feller buncher in a production situation	Level 4	NQF Level 04	15
Elective	116594	Function in a team	Level 4	NQF Level 04	4
Elective	259878	Handover a serviced vehicle	Level 4	NQF Level 04	4
Elective	252218	Liaise with a range of customers of a business	Level 4	NQF Level 04	4
Elective	243950	Maintain a preventative maintenance programme	Level 4	NQF Level 04	3
Elective	115870	Maintain process and record inventories of all hire items	Level 4	NQF Level 04	7

Elective	243276	Manage the transportation of mobile elevated work platforms (MEWP)	Level 4	NQF Level 04	7
Elective	115859	Monitor and control hire contracts	Level 4	NQF Level 04	4
Elective	115877	Monitor and control the maintenance of equipment	Level 4	NQF Level 04	6
Elective	243273	Monitor and control the safety and operations of Mobile Elevating Work Platforms	Level 4	NQF Level 04	8
Elective	243274	Monitor and control the use of prefabricated aluminium alloy scaffolding	Level 4	NQF Level 04	8
Elective	123253	Operate a rigid heavy vehicle	Level 4	NQF Level 04	15
Elective	229999	Perform a range of advanced fall arrest rescues	Level 4	NQF Level 04	4
Elective	242811	Prioritise time and work for self and team	Level 4	NQF Level 04	5
Elective	229997	Select equipment and rig ropes for rope access projects	Level 4	NQF Level 04	6
Elective	230001	Supervise rope access teams and perform advanced manoeuvres and rescues	Level 4	NQF Level 04	6
Elective	243271	Supervise, inspect and control the use of Temporary Suspended Platforms	Level 4	NQF Level 04	8
Elective	243954	Understand the need for cultural awareness in dealing with customers and colleagues	Level 4	NQF Level 04	4