



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

Further Education & Training Certificate: Welding Application and Practice

Qualification ID 57881 – NQF 2; 158 Credits

INTRODUCTION

The purpose of this Qualification is to provide learners with the standards and the range of learning required to work effectively in the welding industry and to meet the challenges of such an environment.

This Qualification recognises the basic skills, knowledge and values acquired by learners involved in welding. The purpose of this Qualification is to develop learners who, after completion, demonstrate the ability to:

Use and apply mechanical and welding technology, techniques, processes and skills, as applied in the fabrication and welding industry, using appropriate tools and measuring equipment.

Use and apply a variety of fillet welding, oxy-fuel cutting and oxy-fuel joining processes.

Demonstrate knowledge of the welding industry and its productivity requirements, by applying appropriate work-procedures.

Communicate effectively in order to achieve personal, business and organizational objectives.

(Range: Reading and interpreting work instructions, documents and drawings; maintaining effective relationships; exploring options for further learning).

This Qualification requires that learners qualify in basic welding practice and theoretical knowledge in weld preparation, cutting and brazing.

Qualifying learners will also understand:

Welding Safety and applicable work-site practice.

Effective communication techniques within the workplace.

Numeracy skills applicable to the welding environment.

Dealing with HIV-aids.

Rationale:

This is the first Qualification in a learning pathway for learners who want to follow a career in welding. The qualification replaces the National Certificate: Welding Application and Practice NQF Level 2 and the interimly registered qualification - National Certificate: Chemical Welder NQF Level 2.

This Qualification focuses on developing skills and knowledge necessary to begin such a career.

The welding industry operates in a competitive and challenging environment. The finished processes have to respond to a wide variety of exacting customer and consumer requirements. In addition, the industry has to respond to international competition and environmental issues.

Welding application and practice require joining and cutting of materials that meet national and international requirements. Welding generally requires the joining of material that is subjected to considerable stress when in operation and the welding process needs to be consistent and accurate.

This Qualification forms part of a series at different levels to create opportunities for development, a career path and greater security of employment within the welding industry.

This Qualification enables learners who have gained relevant experience in the workplace to obtain credits through the RPL process.

Recognition of prior learning:

This qualification can be obtained in part or wholly through the recognition of prior learning. The learner should be thoroughly briefed on the mechanism to be used and support and guidance should be provided. Care should be taken that the mechanism used provides the learner with an opportunity to demonstrate competence and is not so onerous as to prevent learners from taking up the RPL option towards gaining a Qualification.

EXIT LEVEL OUTCOMES

1. Use and apply mechanical and welding technology, techniques, processes and skills, as applied in the fabrication and welding industry, using appropriate tools and measuring equipment.
 2. Use and apply a variety of fillet welding, oxy-fuel cutting and oxy-fuel joining processes.
 3. Demonstrate knowledge of the welding industry and its productivity requirements, by applying appropriate work-procedures.
 4. Communicate effectively in order to achieve personal, business and organizational objectives.
- > Range: Reading and interpreting work instructions, documents and drawings; maintaining effective relationships; exploring options for further learning.

TIME PERIOD

This Learnership can be presented over a period of 12 months. Contact sessions can be determined. This do not need to be 100% contact session based.

A SELECTION OF THE FOLLOWING UNIT STANDARDS WILL BE COMPLETED THAT IS CONSTITUENT TO 150 CREDITS:

	ID	UNIT STANDARD TITLE	PRE-2009 NQF LEVEL	NQF LEVEL	CREDITS
Core	14683	Apply work site practices	Level 2	NQF Level 02	5
Core	243069	Braze metals using the oxy-fuel brazing process	Level 2	NQF Level 02	6
Core	243067	Cut materials using the oxy-fuel gas cutting process (manual cutting)	Level 2	NQF Level 02	6
Core	14722	Describe the welding industry` s composition its productivity requirements and communication techniques	Level 2	NQF Level 02	5
Core	14712	Identify and select material to specification	Level 2	NQF Level 02	5
Core	119744	Select, use and care for engineering hand tools	Level 2	NQF Level 02	8

Core	12476	Select, use and care for engineering measuring equipment	Level 2	NQF Level 02	4
Core	12219	Select, use and care for engineering power tools	Level 2	NQF Level 02	6
Core	14713	Use welding definitions and symbols	Level 2	NQF Level 02	5
Core	243063	Weld carbon steel work-pieces using the shielded metal arc welding process in the down-hand position.	Level 2	NQF Level 02	15
Core	243076	Weld carbon steel workpieces using the cored-wire welding process in the downhand position	Level 2	NQF Level 02	8
Core	243066	Weld carbon steel workpieces using the gas metal arc welding process in the down-hand position	Level 2	NQF Level 02	8
Core	243072	Weld workpieces using the oxy-acetylene gas welding process in the downhand position	Level 2	NQF Level 02	10
Core	243068	Weld carbon steel workpieces using the gas tungsten arc welding process in the downhand position	Level 3	NQF Level 03	15
Fundamental	119463	Access and use information from texts	Level 2	NQF Level 02	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	NQF Level 02	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	NQF Level 02	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	NQF Level 02	5
Fundamental	12444	Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts	Level 2	NQF Level 02	3
Fundamental	119460	Use language and communication in occupational learning programmes	Level 2	NQF Level 02	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	NQF Level 02	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	NQF Level 02	5
Fundamental	119456	Write/present for a defined context	Level 2	NQF Level 02	5
Elective	14779	Describe chemical process operations and related process chemistry and technology used in the chemical industry	Level 1	NQF Level 01	15
Elective	117867	Managing files in a Graphical User Interface (GUI) environment	Level 1	NQF Level 01	3
Elective	116932	Operate a personal computer system	Level 1	NQF Level 01	3

Elective	117902	Use generic functions in a Graphical User Interface (GUI)-environment	Level 1	NQF Level 01	4
Elective	243061	Assemble work pieces in jigs (minor amendments include the use of manipulators)	Level 2	NQF Level 02	3
Elective	13222	Deal with safety, health and environmental emergencies in the workplace	Level 2	NQF Level 02	4
Elective	243075	Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings	Level 2	NQF Level 02	6
Elective	9672	Erect and dismantle scaffolding	Level 2	NQF Level 02	5
Elective	12240	Form and shape sheetmetal using hand or power operated machines	Level 2	NQF Level 02	8
Elective	14701	Join sheetmetal with resistance arc welding process	Level 2	NQF Level 02	4
Elective	116235	Operate a pendant controlled overhead crane	Level 2	NQF Level 02	5
Elective	12484	Perform basic fire fighting	Level 2	NQF Level 02	4
Elective	12483	Perform basic first aid	Level 2	NQF Level 02	4
Elective	14706	Perform basic rigging procedures	Level 2	NQF Level 02	4
Elective	243055	Prepare and secure work pieces for welding (includes the use of manipulators)	Level 2	NQF Level 02	8
Elective	243074	Weld carbon steel components, using the submerged arc welding process in a downhand position	Level 2	NQF Level 02	12
Elective	243056	Weld carbon steel workpieces using the shielded metal arc welding process in all positions	Level 2	NQF Level 02	16
Elective	243064	Weld carbon steel workpieces, using the gas metal arc welding process in all positions	Level 2	NQF Level 02	15