



TRAINING FORCE
Linking Training to Industry

ENGINEERING

NATIONAL CERTIFICATE: WELDING APPLICATION & PRACTICE (ALL POSITIONS: MECHANICAL ENGINEERING)

COURSE INFORMATION

SAQA ID: 57886 (LP: 58535)

NQF Level: 3

Learnership Duration: 12 months

Credits: 151

Contact Sessions: Minimum Contact Session, including remediation (if required) and Portfolio Building, for this Qualification is **30 days**

Accrediting SETA: Manufacturing, Engineering and Related Services Sector Education & Training Authority

PURPOSE

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.

ENTRY CRITERIA

- Communication at NQF Level 2.
- Mathematical Literacy at NQF Level 2.

QUALIFICATION RULES

The qualifying learner will achieve this qualification by complying with the following rules of combination for the accumulation of credits totalling 151:

- Fundamental unit standards totalling 37 credits are compulsory.
- Core unit standards totalling 92 credits are compulsory.
- Elective unit standards totalling a minimum of 22 credits.

EQUIPMENT NEEDED

- Welding rods • Compressor • Cored-wire • Acetylene & oxygen • Hand tools • Welding machine • PPE • Gloves • Goggles • Boots • CO2 gas bottles • Argon gas bottles • Grinder, (dependent on electives chosen) Fire extinguisher • First aid consumables • Access to a pipe cutting machine • Access to a profile cutting machine • Aluminum material • Stainless steel material • Carbon steel • Access to cranes • Access to lifting machines.

MARKET INFORMATION

Target Market: Welders without formal qualifications • Entrepreneurs • Mechanics • Electricians • Various Tradesmen.

Target Industries: Manufacturing • Mining • Construction • Small businesses • Maintenance and repairs • Municipalities.

COURSE INFORMATION

- **Mentor Requirements:** Mentor must have at least 5 years' experience in an engineering environment.
- **Workplace Approval:** Required
- **Workplace Requirements:** Learners must be exposed to all Outcomes related to this qualification.

SKILLS OUTCOMES

Core and Fundamental

- The basics of business finance.
- The investigation and monitoring of the financial aspects of personal, business and national issues.
- Effective communication techniques (oral and written) when dealing with clients and fellow workers, while participating in workplace activities.
- Applicable numeracy skills at this level.
- Managing work time effectively (productivity).

Electives (depending on which electives are chosen)

- Use and apply a variety of plate welding, cutting, and gouging processes according to performance standards.
- Demonstrate an understanding of welding procedures and the quality of welded components.
- Maintain organisational relationships through effective communication with clients, peers and members of supervisory/management levels.

GENERAL INFORMATION



Credit Accumulation Transfer (CAT): CAT exemption is only applicable to approved learners. Approved learners will have reduced contact days. Learners who do not meet the CAT requirements will be required to complete all the Clusters.



FISA Requirements: Final Integrated Summative Assessment is not a requirement for the successful completion of this learnership.



Recognition of Prior Learning (RPL): RPL is not available for this qualification



Training Methodology: This learnership is not available on UHub

UNIT STANDARDS

Cluster 1 (compulsory)

Outcome	SAQA ID	Name of Unit Standard	Credits
Core	243055	Prepare and secure work pieces for welding (includes the use of manipulators)	8
Core	243056	Weld carbon steel work pieces using the shielded metal arc welding process in all positions	16
Core	243064	Weld carbon steel work pieces using the gas metal arc welding process in all positions	15
Core	14707	Gouge material with air-carbon-arc gouging process	10
Core	243052	Weld carbon steel work pieces using the cored-wire welding process in all positions	8
Core	243058	Weld carbon steel work pieces using the gas tungsten arc welding process in all positions	25
Core	243053	Weld carbon steel work pieces using the oxy-acetylene gas welding process in all positions	10

- Recommended training days for Cluster 1 is 19 days

Cluster 2 (compulsory) – Credit Accumulation Transfer is applicable to the highlighted unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	116937	Use a Graphical User Interface (GUI) based spreadsheet application to create and edit spreadsheets	4
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	5
Fundamental	9528	Communicate with clients	3
Fundamental	12488	Complete feasibility and commissioning reports	3
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	2
Fundamental	119457	Interpret and use information from texts	5
Fundamental	9012	Investigate life and work-related problems using data and probabilities	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	5

- Recommended training days for Cluster 1 is 8 days

Cluster 3 (electives) Choose any combination of unit standards with a total credit value of 22 and above

Outcome	SAQA ID	Name of Unit Standard	Credits
Elective	243061	Assemble work pieces in jigs (minor amendments include the use of manipulators)	3
Elective	12238	Draw and interpret simple engineering drawings	10
Elective	12484	Perform basic fire fighting	4
Elective	12483	Perform basic first aid	4
Elective	243077	Cut material using the oxy-fuel pipe cutting device	3
Elective	243080	Cut material using the oxy-fuel profile cutting machine	5
Elective	243081	Cut material using the oxy-fuel straight-line cutting machine	3
Elective	12457	Develop learning strategies and techniques	3
Elective	243086	Draw and interpret complex plate, pipe and structural steel plate, pipe and structural steel drawings	6
Elective	8039	Operating cranes	10
Elective	8038	Operating lift trucks	6
Elective	243078	Perform destructive testing on welded specimens	5
Elective	9533	Use communication skills to handle and resolve conflict in the workplace	3
Elective	243088	Weld carbon steel pipe, with combination welding processes using the gas tungsten arc welding and gas metal arc welding in all positions	8
Elective	243059	Weld work pieces in the stainless-steel material group using the gas metal arc welding process in all positions	10
Elective	243089	Weld work pieces within the aluminium material group using the gas tungsten arc welding process in all positions	10
Elective	243057	Weld workpieces within the stainless-steel material group using the gas tungsten arc welding process in all positions	10
Elective	243079	Weld workpieces within the aluminium material group, using the gas tungsten arc welding process in all positions	10

- Recommended training days for Cluster 3 is dependent on the electives chosen.