

**TRAINING FORCE**  
Linking Training to Industry

# ENGINEERING

## GENERAL EDUCATION AND TRAINING CERTIFICATE: MANUFACTURING, ENGINEERING & RELATED ACTIVITIES

### COURSE INFORMATION

**SAQA ID:** 23253

**NQF Level:** 1

**Learnership Duration:** 12 months

**Credits:** 125

**Contact Sessions:** Minimum Contact Session, including remediation (if required), and Portfolio Building for this Qualification is **25 Days**

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

### PURPOSE

This qualification specifies the key skills, knowledge and values required to access engineering and manufacturing qualifications in the Further Education and Training Band. It describes the learning outcomes required to participate in workplace-based learning programmes for occupationally focused qualifications in the manufacturing, engineering and assembly sectors.

### ENTRY CRITERIA

- Communication and Numeracy competency at ABET Level 3.

### QUALIFICATION RULES

The qualifying learner will achieve this qualification by complying with the following rules of combination for the accumulation of credits totalling 125:

- Core unit standards totalling 49 credits are compulsory.
- Fundamental unit standards totalling 70 credits are compulsory.
- Elective unit standards totalling a minimum of 6 credits.

### EQUIPMENT NEEDED

- Hand and measuring tools • First aid equipment.

### MARKET INFORMATION

**Target Market:** Electricians • Civil Engineers • Engineers • Manufacturers

**Target Industries:** Manufacturing • Engineering • Assembly industries

### COURSE INFORMATION

- **Mentor Requirements:** Mentor must have at least 5 years' experience in a manufacturing or similar environment.
- **Workplace Approval:** MERSETA approval required
- **Workplace Requirements:** Learners must be exposed to all Outcomes related to this qualification.

### SKILLS OUTCOMES

- Describe and explain a specific manufacturing, engineering or assembly process, relate the tools and materials to the process and explain the science and technology which underpins the conversion processes.
- Demonstrate in the process of assessment the use of appropriate numeracy and communication skills.
- Describe and explain, in the context of a specific workplace environment, the procedures and policies which govern that specific working environment.
- Describe and explain the purpose of a specific business.
- Describe and explain how the NQF enables the learner to select a learning path and identify the skills and qualifications that will enable him/her to achieve his/her goals and targets.

### GENERAL INFORMATION



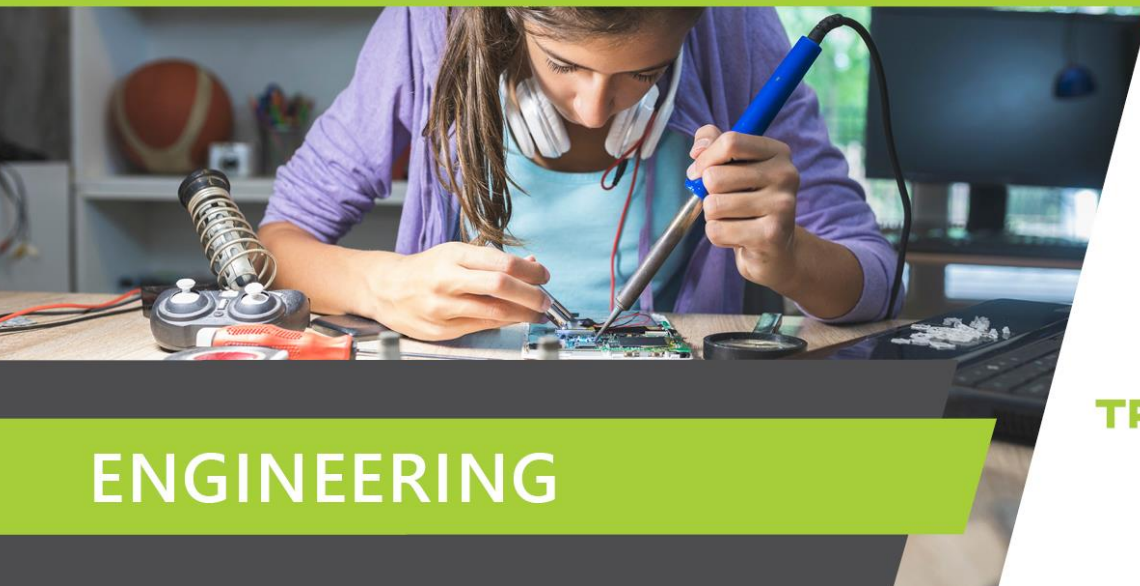
**Credit Accumulation Transfer (CAT):** CAT exemption is only applicable to approved learners. Approved learners will have reduced contact days. Learners who do not meet the CAT requirements will be required to complete Part 1 and Part 2 of every Cluster.



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



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



# ENGINEERING

## UNIT STANDARDS

### Cluster 1 (Part 1) - Orientation to Manufacturing and Engineering

Outcome	SAQA ID	Name of Unit Standard	Credits
Core	13171	Describe and show how the NQF can help me to plan a learning and career pathway	5

- Recommended training days for Cluster 1 part 1 is 1 day

### Cluster 1 (Part 2) - Literacy Skills – Credit Accumulation Transfer is applicable to the highlighted unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	12471	Explore & use a variety of strategies to learn (revised)	5
Fundamental	12473	Identify and respond to selected literacy texts	5
Fundamental	12469	Read/view & respond to a range of text types	6

- Recommended training days for Cluster 1 part 2 is 3 days

### Cluster 2 (Part1) - Policies, Procedure and Governance within the Manufacturing and Engineering Industry

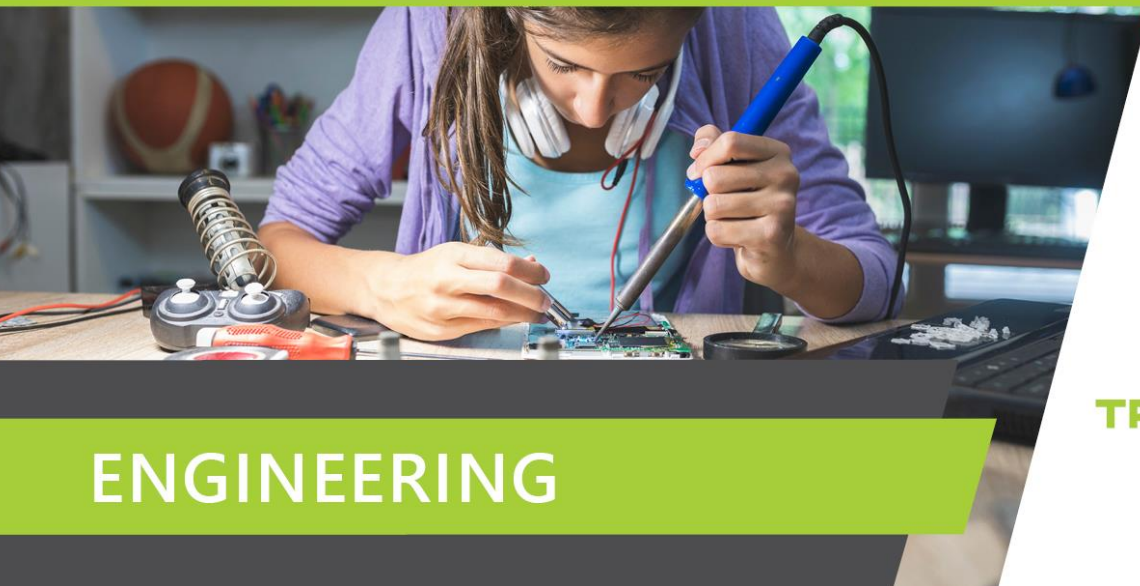
Outcome	SAQA ID	Name of Unit Standard	Credits
Core	13162	Identify and describe inputs, outputs, stages and quality indicators of the manufacturing, assembly or engineering process	10
Core	13176	Describe and discuss basic issues relating to the nature of business, the stakeholders in a business and business profitability	3
Core	13995	Demonstrate an understanding of contracts and their sources	2
Core	13996	Identify, discuss, describe and compare major economic systems, with emphasis on the South African economy	2
Core	13998	Demonstrate an understanding of the principles of supply and demand, and the concept: production	2

- Recommended training days for Cluster 2 part 1 is 4 days

### Cluster 2 (Part 2) - Relationship between Human Development and Resources – Credit Accumulation Transfer is applicable to the unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	7489	Show, explain, discuss and analyze the relationship between society and natural environment	4
Fundamental	10229	Discuss development, utilization and management of human and natural resources	4
Fundamental	12462	Engage in a range of speaking/signing & listening interactions for various purposes	6
Fundamental	12470	Write/sign for a variety of different purposes	6

- Recommended training days for Cluster 2 part 2 is 4 days



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## Cluster 3 (Part 1) - Health and Safety Measures in the Workplace

Outcome	SAQA ID	Name of Unit Standard	Credits
Core	13169	Describe and discuss issues relating to HIV-AIDS, TB and sexually transmitted illnesses and their impact on the workplace	4
Core	13174	Identify and discuss inappropriate behaviors in the workplace	2
Core	12537	Identify personal values and ethics in the workplace	4

- Recommended training days for Cluster 3 part 1 is 2 days

## Cluster 3 (Part 2) - Basic principles of Natural and Scientific Sciences – Credit Accumulation Transfer is to the unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	7508	Conduct an investigation in the natural science	4
Fundamental	7509	Apply basic concepts and principles in the natural sciences	5
Fundamental	7513	Assess the impact of scientific innovation on quality of life	2

- Recommended training days for Cluster 3 part 2 is 2 days

## Cluster 4 (Part 1) - Interpretation of Mathematical Models and Tools

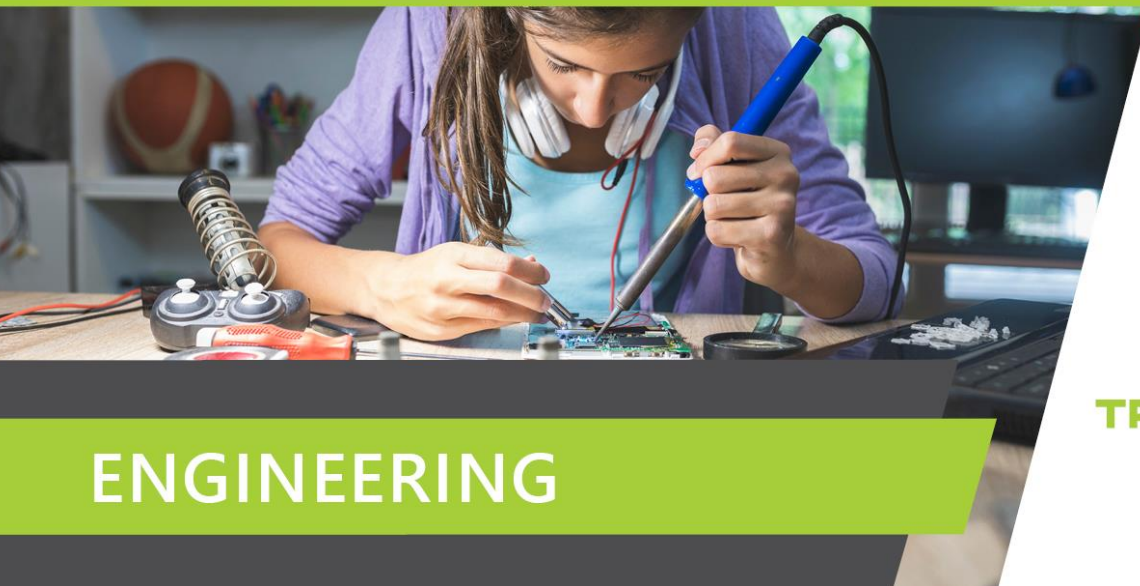
Outcome	SAQA ID	Name of Unit Standard	Credits
Core	13159	Care for, select and use hand and measuring tools	4
Elective	7452	Describe, represent and interpret mathematical models in different contexts	6

- Recommended training days for Cluster 4 part 1 is 2 days

## Cluster 4 (Part 2) - Numeracy and Communication Skills – Credit Accumulation Transfer is applicable to the unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	7451	Collect, analyze, use and communicate numerical data	2
Fundamental	7450	Work with measurement in a variety of contexts	2
Fundamental	7463	Describe and represent objects and the environment in terms of shape, space, time and motion	2
Fundamental	7448	Work with patterns in various contexts	4
Fundamental	7447	Working with numbers in various contexts	6

- Recommended training days for Cluster 4 part 2 is 3 days



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## Cluster 5 (Part 1)- General Workplace Safety and Conduct Procedures

Outcome	SAQA ID	Name of Unit Standard	Credits
Core	13167	Identify potential hazards and critical safety issues in the workplace	2
Core	13165	Describe the properties of materials found in the workplace and describe their impact on the environment	6
Core	13172	Understand the employer/employee relationship	3

- Recommended training days for Cluster 5 part 1 is 2 days

## Cluster 5 (Part 2) –Interpreting work documents - Credit Accumulation Transfer is applicable to the unit standards below

Outcome	SAQA ID	Name of Unit Standard	Credits
Fundamental	7507	Demonstrate an understanding of the concept of science	2
Fundamental	7461	Use maps to access and communicate information concerning routes, location and direction	1
Fundamental	7449	Critically analyze how mathematics is used in social, political and economic relations	2
Fundamental	13157	Read, interpret and understand information on a payslip	2

- Recommended training days for Cluster 5 part 2 is 2 days