

**Accreditation details:**

Full Accreditation SSETA No. 0228

Learning Programme Approval merSETA

**COMPETITIVE OPERATIONS****NATIONAL CERTIFICATE: PRODUCTION TECHNOLOGY**

NQF LEVEL 3 / CREDITS: 130

Learnership Code: 17Q170151241203

**PURPOSE**

The combination of learning outcomes that comprise this qualification will provide the qualifying learner with vocational knowledge and skills appropriate to the context of production technology. This qualification provides learners with the range of learning and skills required to be able to perform a series of activities to support manufacturing, engineering, and technology processes. Learners will acquire a range of skills in the identification of production parameters in manufacturing, engineering, and technology industries, and basic strategies to achieve them.

The qualifying learner will be able to:

- Perform production maintenance activities, and report irregularities within organisational structures.
- Apply the fundamental concepts, theories, and techniques of production systems.
- Apply the fundamental concepts relating to production planning, scheduling, and control.
- Apply quality control, and quality assurance practices for efficient and effective production processes.
- Communicate effectively as a member of a team.

**CONTENT**

**MODULE 1: Introduction.** Overview of the programme.

**MODULE 2: Pulling Together.** Every team is structured according to mini-businesses, and has its own set of internal and external customers with whom it builds relationships. In addition, every team has a set of key performance indicators (KPIs); measures that it influences directly, and for which it is directly responsible.

**MODULE 3: Safe Workplace Organisation.** Explains how to create a visual, functional, organised workplace that improves productivity, highlights improvements, and eliminates the need for searching. It will also provide the necessary skills and knowledge to create a safer work environment. Benefits include:

- A safe working environment.
- Increased productivity and efficiency.
- Machines that last longer, and break down less often.
- Improved stock control, and reduced duplicate ordering.

**MODULE 4: Small Group Activities.** Small problem solving groups, comprised of people from all levels and functions of an organisation. It could be a group of three to five operators brainstorming about a specific issue that they faced on the previous shift, or it could be a small group of people from different levels thinking of a new way in which to care for the company's machines.

It is about implementing as many as possible improvements. A good system for generating ideas must be established, and an even better system for implementing ideas. People must be empowered to implement their own ideas, whether it means simply allowing them to try new things, or to give them the necessary training, material, and tools to implement their own ideas.

**MODULE 5: Lean Workflow.** Lean workflow helps to establish a smooth flow of product, information, and services. Like a boat flowing down a river is slowed down by dams holding up the flow of the river, so the different work-in-process stores (such as stockpiles and in-trays) hold up the flow of work through a system. Techniques such as Value Stream Mapping are used to help identify how and where value flows. Other techniques and methodologies used include Just-In-Time, Kanban, Re-order Levels, etc. Focus is placed on how to:

- Eliminate wasteful activities.
- Optimise necessary non value-adding activities.
- Maximise value-adding activities.

**MODULE 6: Skills Development.** Without skills development, it is not possible to empower the front-line to participate in an improvement effort. As the business and environment change, skills must be adapted to meet these changes. Focus is placed on how to decide which skills are needed, and what training interventions are required to maximise efficiencies.

**MODULE 7: Cost and Efficiency Control.** It is about creating an organisation-wide conservation culture. Making people at all levels aware of how they can help to save energy and material - even in small ways - will contribute greatly towards helping an organisation to become a lean, competitive market player.

**MODULE 8: Quality Assurance.** It is about making processes capable to deliver what they need to deliver. This helps to prevent the need to rework or redo specific aspects of a process. Focus is placed on how to reduce the amount of variation in a process, as well as the amount of monitoring that must be done.

**MODULE 9: Asset Care.** The main focus is on improving the effectiveness of equipment. This is done by involving operators of equipment in daily and routine preventive maintenance, so that artisans and engineers can focus on implementing the rest of the asset care strategy. An important part of Asset Care is about establishing a partnership between production and engineering, and an important concept is to solve the root causes of problems.

**MODULE 10: Understanding the Impact of HIV/AIDS on the Workplace.** To acquire knowledge of how HIV/AIDS affects employees in the workplace, and how it impacts on their rights and responsibilities. The importance of industry and company policies pertaining to HIV/AIDS is also discussed.

**FEATURES**

- Consists of one Overview Module, to create a common vision, and 9 practical Modules, to make operations more competitive.
- Creates a common language for improvement.
- Utilises detailed checksheets to depict the levels of improvement towards world class.
- Based on a proven methodology for sustainable business improvement.