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AIDS HELPLINE: 0800-0123-22 Prevention is the cure

TITLE: Maintain Equipment associated with final control elements

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

Level: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain equipment associated with final control elements

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of equipment associated with final control elements

Types of equipment associated with final control elements

Calculations and units of measurement used in equipment associated with final control elements

Physical properties of the product being measured

UNIT STANDARD RANGE

Final control element principles includes but is not limited to Pneumatic, Electric and Hydraulic actuated valves, Power cylinders, Pneumatic or Current converters

The range of equipment associated with final control elements includes any device that changes the value of the measured variable including the associated control elements.

Maintaining equipment associated with final control elements includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate equipment associated with final control elements.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of equipment associated with final control elements is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove equipment associated with final control elements

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The equipment associated with final control elements is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure
2. The correct tools are selected and used according to the job requirements
3. The calibration, test and equipment associated with final control elements is correctly prepared for the calibration process
4. The equipment associated with final control elements is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the equipment associated with final control elements.

ASSESSMENT CRITERIA

- 1 The equipment associated with final control elements is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the equipment associated with final control elements is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of equipment associated with final control elements

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures

4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of equipment associated with final control elements including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of equipment associated with final control elements and their accessories.

Hazards and preventive precautions associated with equipment associated with final control elements.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty equipment associated with final control elements and interpreting job requirements.

TITLE: Maintain level equipment

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain Level equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of level measurement

Types of level measurement

Calculations and units of measurement used in level measurement

Physical properties of the product being measured

UNIT STANDARD RANGE

Level measurement principles includes but is not limited to pressure, ultrasonic, radar, optical, nuclear.

The range of level equipment includes but is not limited to level switches, level transmitters, level gauges, level probes

Maintaining level equipment includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate level equipment.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of level equipment is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties.

SPECIFIC OUTCOME 2

Isolate and remove level equipment

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The level equipment is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate level equipment.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure
2. The correct tools are selected and used according to the job requirements
3. The calibration, test and level equipment is correctly prepared for the calibration process
4. The level equipment is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the level equipment.

ASSESSMENT CRITERIA

- 1 The level equipment is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the level equipment is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of level equipment

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures
- 4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of level equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of level equipment and their accessories.

Hazards and preventive precautions associated with level equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty level equipment and interpreting job requirements.

TITLE: Maintain flow equipment

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

LEVEL: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain Flow equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of flow measurement

Types of flow measurement

Calculations and units of measurement used in flow measurement

Physical properties of the product being measured

UNIT STANDARD RANGE

Flow measurement principles includes but is not limited to differential pressure, ultrasonic, conductivity, optical, thermal.

The range of flow equipment includes but is not limited to, magflow, flow indicators, variable area and flow integrator.

Maintaining flow equipment includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate flow equipment.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of flow equipment is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove flow equipment

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements

3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The flow equipment is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate flow equipment.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure
2. The correct tools are selected and used according to the job requirements
3. The calibration, test and flow equipment is correctly prepared for the calibration process
4. The flow equipment is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the flow equipment.

ASSESSMENT CRITERIA

- 1 The flow equipment is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the flow equipment is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of flow equipment

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures
- 4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of flow equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of flow equipment and their accessories.

Hazards and preventive precautions associated with flow equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty flow equipment and interpreting job requirements.

TITLE: Read and interpret Instrumentation Drawings.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 4

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Select, interpret and analyze Instrumentation Drawings

Demonstrate knowledge of different types and applications of Instrumentation Drawings.

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Induction to industry

Symbols and Abbreviations

Types of Drawings

UNIT STANDARD RANGE

Instrumentation Drawings include, but are not limited to loop diagrams, process and instrumentation diagrams, flow diagrams, hook-ups and schematic diagrams.

Care of drawings include but is not limited to proper storage and ensuring drawings are relevant

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:***SPECIFIC OUTCOME 1***

Identify and select Instrumentation drawings.

ASSESSMENT CRITERIA

1. Correctly differentiate between the different types of Measurement, Control and Instrumentation drawings
2. The correct Measurement, Control and Instrumentation drawings are chosen according to the activity required
3. The correct Measurement, Control and Instrumentation drawing is obtained using the drawing numbering system that is implemented in the workplace

SPECIFIC OUTCOME 2

Demonstrate an understanding of Instrumentation drawings.

ASSESSMENT CRITERIA

1. The symbols and abbreviations on the Measurement, Control and Instrumentation drawings are correctly identified.
2. The purpose of Measurement, Control and Instrumentation and diagrams are correctly explained.
3. The Measurement, Control and Instrumentation drawing legends are correctly used to extract appropriate information from the drawing.

SPECIFIC OUTCOME 3

Interpret and use instrumentation drawings and diagrams

ASSESSMENT CRITERIA

1. The physical equipment and control loops are correctly located as per the Measurement, Control and Instrumentation drawings
2. The physical equipment and control loops are correctly verified and correspond to the Measurement, Control and Instrumentation drawings
3. The activity is correctly completed by using the Measurement, Control and Instrumentation drawings
4. The deviations from standards are accurately recorded and reported to the relevant personnel.

SPECIFIC OUTCOME 4

Care and Storage of Instrumentation Drawings

ASSESSMENT CRITERIA

1. The drawings are kept clean and correctly handled as per workplace procedure
2. The drawings are correctly stored according to company procedures and documentation storage systems
3. Damage to drawings are accurately recorded and reported to the relevant personnel.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Document Numbering and Storage Systems for Instrumentation Drawings.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting damaged or outdated Instrumentation Drawings and interpreting job requirements.

TITLE: Select, inspect, use and maintain Measurement, Test and Calibration equipment.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 8

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Safely identify, select, inspect, use and maintain Measurement, Test and Calibration equipment used for the calibration of instrumentation.

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

Measurement, Test and Calibration equipment include, but are not limited to; Temperature calibration mediums (dry block, bath etc.), Milli-volt/amp sources, Deadweight testers, Decade boxes, Temperature/Pressure calibrators/simulators, Comparators, Oscilloscopes, Function Generators, Manometers.

Caring for and maintaining of Measurement, Test and Calibration equipment includes, but is not limited to; Verification, calibration, adjustment, storage and Certification of in terms of statutory requirements.

Safety precautions include the use of personal protective equipment, electrical and fire protection.

Statutory requirements include but are not limited to ISO/IEC-17025, OSH Act, and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:***SPECIFIC OUTCOME 1***

Select and Inspect Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The Measurement, Test and Calibration equipment is correctly selected according to the job requirement.
2. The maintenance manuals/specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of Measurement, Test and Calibration equipment are recognised and the correct precautions are taken according to workplace procedures and manufacturers specifications.
4. Faulty and unsafe equipment is correctly identified and accurately documented and reported to the relevant personnel during the inspection.

SPECIFIC OUTCOME 2

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The different types of calibration equipment are correctly identified.
2. The various applications applicable to different types of calibration equipment and their associated procedures are correctly identified.
3. The applicable safety precautions are correctly identified for using various types of calibration equipment.
4. The correct regulatory specifications and requirements are identified when using various types calibration equipment.

SPECIFIC OUTCOME 3

Maintain Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The equipment is correctly packed and stored in accordance with manufacture's specification.
2. The equipment is correctly cleaned and inspected for damage before use according to workplace procedures and manufacturers specifications
3. The equipment is correctly tested for satisfactory operation according to manufacturers specifications
4. The deviations from standards are accurately recorded and reported to the relevant personnel

SPECIFIC OUTCOME 4

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The equipment is correctly set-up for calibration purposes according to the workplace procedures and manufacturers specifications.
2. The equipment specifications are correctly tested against manufacturer standards during pre-calibration testing.

3. The deviations from manufacturer standards are accurately recorded.
4. The field instrumentation equipment is correctly calibrated within the tolerances provided for by the manufacturer.
5. The results are accurately recorded and reported to the relevant personnel.
6. The equipment is correctly removed after calibration according to workplace procedures.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Measurement, Test and Calibration equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Measurement, Test and Calibration equipment and their accessories.

Hazards and preventive precautions associated with Measurement, Test and Calibration equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Measurement, Test and Calibration equipment and interpreting job requirements.

TITLE: Maintain Controllers

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

Level: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain Controllers

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of controllers

Types of controllers

Calculations and units of measurement used in controllers

Physical properties of the product being measured

UNIT STANDARD RANGE

Final control element principles includes but is not limited to pneumatic or electronic

The range of controllers includes but is not limited to temperature, flow and pressure.

Maintaining controllers includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate controllers.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of controllers is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove controllers

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The controllers is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate controllers.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure

2. The correct tools are selected and used according to the job requirements
3. The calibration, test and controllers is correctly prepared for the calibration process
4. The controllers is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the controllers.

ASSESSMENT CRITERIA

- 1 The controllers is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the controllers is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of controllers

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures
- 4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation

guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of controllers including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of controllers and their accessories.

Hazards and preventive precautions associated with controllers.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty controllers and interpreting job requirements.

TITLE: Install, test and maintain a basic hydraulic system

UNIT STANDARD NUMBER:

LEVEL ON NQF: 3

CREDITS: 10

FIELD: Manufacturing, Engineering and Technology

SUB FIELD: Manufacturing and Assembly

ISSUE DATE:

REVIEW DATE:

PURPOSE:

The skills, values and knowledge reflected in this unit standard are required by people in the field of mechatronics. The learning outcomes in this unit standard also contribute to the exit level outcomes required for the mechatronics NQF level 4 qualification.

Qualifying learners can install, test and maintain a basic hydraulic system.

LEARNING ASSUMED TO BE IN PLACE:

This unit standard has been designed to be as part of a progression. It is one of a series of unit standards for activities at and above this level. The credits assigned to it are based on the assumption that the learner is learning what is needed for this unit standard as part of his/her learning for a range of related unit standards at this level.

SPECIFIC OUTCOMES

1. Read and interpret basic hydraulic circuit diagrams and related component symbols
2. Identify and select hydraulic components

Range:

Hydraulic components include pumps, reservoirs, pressure regulators, instrumentation, piping, seals, connectors, valves, manometers, actuators, cylinders, relief valves, drivers

3. Install basic hydraulic circuits

Range:

Circuits are to include basic lifting circuits, basic motor circuits, basic pushing circuits

4. Test basic hydraulic circuits and record results

Range:

Hydraulic testing includes pressure testing and leakage testing

5. Maintain basic hydraulic circuits

6. Work safely with due care for self, fellow workers, machines, equipment, materials and the environment

ASSESSMENT CRITERIA

Results achieved

1. Basic hydraulic circuit diagrams and related symbols interpreted correctly
2. Hydraulic circuits installed to specifications
3. Lines joined and terminated
4. Hydraulic circuits are tested and results recorded
5. Installations are maintained to specifications

Indicators

1. Correct components are selected and used
2. Test equipment is used correctly
3. Safe working practices are adhered to
4. Correct tools are selected and used
5. Problems are reported timeously to appropriate personnel
6. A clean and tidy work environment is maintained

Understanding confirmed

1. Respond to 'what if' and 'why' questions covering:
 - Principles of hydraulics

- Diagrams and related symbols
 - Hydraulic components
 - Test equipment and procedures
 - Hydraulic safety
2. Explain and discuss the implications of not adhering to the sequence of activities and operations as described in the specific outcomes and making decisions inappropriate to the task

ACCREDITATION AND MODERATION:

The assessment will be governed by the policies and guidelines of the MERSETA Education and Training Quality Assuror who has jurisdiction over this field of learning. The assessor will be accredited and have a technical qualification in this learning area.

The learner can be assessed in the language of his/her choice although s/he has to report incidents or conditions to someone else. The learner will be assessed on his/her ability to report in the language commonly used in his/her working environment.

The learner will be assessed in the workplace but s/he can submit documents, projects, test results and assignments that were not produced in the workplace.

The learner can be assessed against this unit standard to obtain credits or as part of an integrated assessment for a qualification.

RANGE STATEMENT:

The scope and level of this unit standard is determined by the ranges as indicated under the specific outcomes.

Work is done with minimal supervision.

NOTES:**Essential Embedded Knowledge**

1. Names & functions of:
 - Hydraulic components
 - Hydraulic test equipment
 - Basic hydraulic circuits
2. Attributes, descriptions, characteristics & properties:
 - Properties of liquids

- Cylinders in series and parallel
3. Sensory cues:
 - Use of senses to detect faulty components
 - Use of sight to read hydraulic diagrams
 4. Purpose of:
 - Reading circuit diagrams
 - Using variety of components
 - Pressure regulator
 - Flow meter
 - Maintenance and trouble shooting
 5. Processes, events, causes and effects, implications:
 - Causes of damage and injury
 - Implications of incorrect testing applications
 - Implication of not applying pneumatic safety
 6. Procedures and techniques:
 - Installation procedures
 - Testing procedures
 7. Regulations, legislation, agreements, policies, standards:
 - Applicable safety, health and environmental protection legislation and standards
 8. Theory: rules, principles, laws:
 - Principles of hydraulics
 - Pascal's pressure laws
 9. Relationships, systems:
 - Relationship between testing and hydraulic safety
 - Relationship between hydraulic installations and control systems

Critical Cross-Field Education & Training Outcomes

1. Identify and solve problems
 - Recognise situations that require corrective action
2. Work effectively with others
 - Contribute to workgroup efforts to maintain cleanliness, safety and quality
 - Contribute to working in groups to determine a solution to an identified problem
3. Organise and manage myself and my activities
 - Apply correct procedures for using, storing and caring for test equipment, tools, hydraulic diagrams and components
4. Communicate effectively
 - Use common names for hydraulic components
 - Use common names for test equipment
 - Use common names for hydraulic circuits
 - Fill in the necessary fault reports and material requisition forms
5. Use science and technology effectively and critically
 - Principles of fluid pressure
6. Demonstrate an understanding of the world as a set of related systems
 - Relate the installation of hydraulic circuits to other applications

SUPPLEMENTARY INFORMATION:

TITLE: Maintain recorders

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

LEVEL: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain Recorders

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of recorders measurement

Types of recorders measurement

Calculations and units of measurement used in recorders measurement

Physical properties of the product being measured

UNIT STANDARD RANGE

Recorders measurement principles includes but is not limited to pneumatic or electronic

The range of recorders includes but is not limited temperature, flow, level and pressure

Maintaining recorders includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate recorders.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of recorders is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove recorders

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The recorders is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate recorders.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure

2. The correct tools are selected and used according to the job requirements
3. The calibration, test and recorders is correctly prepared for the calibration process
4. The recorders is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the recorders.

ASSESSMENT CRITERIA

- 1 The recorders is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the recorders is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of recorders

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures
- 4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of recorders including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of recorders and their accessories.

Hazards and preventive precautions associated with recorders.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty recorders and interpreting job requirements.

TITLE:	Demonstrate an understanding of basic programmable logic controllers
FIELD:	Manufacturing Engineering and Technology
SUBFIELD:	Engineering and related design
UNIT STANDARD ID:	
NQF LEVEL	3
CREDITS	6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field. A person credited with this unit standard will be able to: Demonstrate an understanding of basic programmable logic controllers (PLC)

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic computer literacy

Basic understanding of electricity

Basic digital electronics

UNIT STANDARD RANGE

Type of PLC's used include but is not limited to block PLC's, modular PLC's, screw mounted PLC's, din rail PLC's.

The range of PLC equipment includes but is not limited to central processing unit, input modules, output modules, power supply, back plane.

Programming languages appropriate to the PLC used include but are not limited to Ladder, STL and SFC.

Safety precautions include the use of personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the input/output peripherals of a PLC

ASSESSMENT CRITERIA

1. The correct PLC peripheral is identified. (input/output, discrete, digital, analogue, intelligent)
2. The correct manuals, specifications and drawings are selected for the PLC peripheral in use
3. The hazards associated with the use of peripherals of a PLC are correctly recognised and the necessary precautions taken according to workplace procedures
4. The correct operation of the PLC peripheral device must be demonstrated
5. The PLC peripherals are correctly removed and replaced according to manufacturers specifications.

SPECIFIC OUTCOME 2

Demonstrate an understanding of field devices interfaced to programmable logic controllers.

ASSESSMENT CRITERIA

1. The correct field device is identified (pushbuttons, limits, level, pressure devices)
2. The operation of the field device is verified according to the manufacturers specification and workplace procedures
3. The field device is correctly connected to the appropriate peripheral as per manufacturers specifications.

4. Appropriate personal safety equipment is correctly selected according to the job requirement and company SHERQ policies.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the processor in a programmable logic controller.

ASSESSMENT CRITERIA

1. The functions of the PLC indicator lights of the processor are correctly explained as per manufacturers operating procedures
2. The PLC battery of the processor is correctly identified, removed & replaced according to manufactures specifications.
3. The faults are correctly diagnosed by utilising the PLC indicator lights as per manufacturers operating procedures
4. The PLC processor mode switch is correctly identified and utilized according to the task instruction and manufacturers operating procedures
5. The PLC communication status indicators are correctly identified and the status correctly explained as per manufacturers operating procedures

SPECIFIC OUTCOME 4

Demonstrate an understanding of the back plane and power supply of a programmable logic controller.

ASSESSMENT CRITERIA

1. The placement of the PLC peripherals and processor on the back plane are correct according to the address structure of the back plane as per manufacturers operating procedures
2. The correct PLC addressing modes are selected on the back plane for the PLC peripheral modules selected.
3. The correct insertion of the PLC power supply is carried out according to manufactures specifications.
4. The correct connections for the PLC redundant power supply have been made as per manufacturers operating procedures

SPECIFIC OUTCOME 5

Demonstrate an understanding of the programming terminal

ASSESSMENT CRITERIA

1. The PLC handheld or programming terminal must be correctly connected to the processor as per manufacturers operating procedures
2. Establish the correct communication between the programmer and the processor as per manufacturers operating procedures
3. The correct sequence is used to monitor the PLC on-line programme that resides in the processor as per manufacturers operating procedures
4. The instruction mnemonics are correctly explained with reference to the field devices as per manufacturers programming manual

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

- # Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.
- # Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.
- # Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of programmable logic controllers , including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of pressure equipment and their accessories.

Hazards and preventive precautions associated with pressure equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty pressure equipment and interpreting job requirements.

TITLE: Demonstrate an understanding of and install Instrument impulse lines.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Safely identify, select, inspect, install and maintain Instrument impulse lines.

Demonstrate knowledge of different types and applications of Instrument impulse lines

Test for leaks and blockages

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

Instrument impulse lines including all associated fittings.

Safety precautions include the use of all appropriate personal protective equipment, electrical and fire protection.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:***SPECIFIC OUTCOME 1***

Select and Inspect Instrument impulse lines

ASSESSMENT CRITERIA

1. The Instrument impulse lines are correctly selected according to the job requirement.
2. The maintenance manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of instrument impulse lines are recognised and necessary precautions taken according to work site procedures.
4. The damaged and unsafe instrument impulse lines are identified and accurately reported to the relevant personnel.

SPECIFIC OUTCOME 2

Demonstrate knowledge of different types and applications of Instrument impulse lines

ASSESSMENT CRITERIA

1. Accurately identify various types of Instrument impulse lines.
2. Identify various applications for different types of Instrument impulse lines and their associated procedures.
3. Identify applicable safety precautions than need to be taken when using various types of Instrument impulse lines.

SPECIFIC OUTCOME 3

Maintain Instrument impulse lines.

ASSESSMENT CRITERIA

1. Check that instrument impulse lines are correctly installed in accordance with manufacturer specifications and applicable safety requirements.
2. Clean, inspect and replace damaged instrument impulse lines.
3. Test for and repair instrument impulse lines for leaks.
4. Deviations from standards are recorded and reported to the relevant personnel.

SPECIFIC OUTCOME 4

Install and Commission Instrument impulse lines

ASSESSMENT CRITERIA

1. Correctly set-up instrument impulse lines for installation according to workplace and manufacturer specifications.
2. Install and test instrument impulse lines according to prescribed standards.
3. Record deviations from prescribed standards and take corrective action.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Instrument impulse lines including the use of personal protective equipment, electrical and fire protection.

Locations of Instrument impulse lines and their accessories.

Hazards and preventive precautions associated with Instrument impulse lines

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - damaged equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting damaged Instrument impulse lines and interpreting job requirements.

TITLE: Demonstrate an understanding of and maintain Equipment associated with final control elements

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

Level: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain Equipment associated with final control elements

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Final control elements includes but is not limited to Pneumatic, Electric and hydraulic actuated vales, Power cylinders, Pneumatic to current converters.

The range of final control elements includes any device that changes the value of the measured variable including the associated control elements.

Caring for equipment associated with final control elements includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of equipment associated with final control elements are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.
4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.
5. The equipment associated with final control elements is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The equipment associated with final control elements is correctly installed according to workplace and manufacturers specifications.
2. The equipment associated with final control elements is inspected for incurred defects in accordance to workplace and manufacturers specifications.
3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Equipment associated with final control elements and their accessories.

Hazards and preventive precautions associated with Equipment associated with final control elements.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Equipment associated with final control elements and interpreting job requirements.

TITLE: Select, inspect, use and maintain Measurement, Test and Calibration equipment.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 8

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Safely identify, select, inspect, use and maintain Measurement, Test and Calibration equipment used for the calibration of instrumentation.

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

Measurement, Test and Calibration equipment include, but are not limited to; Temperature calibration mediums (dry block, bath etc.), Milli-volt/amp sources, Deadweight testers, Decade boxes, Temperature/Pressure calibrators/simulators, Comparators, Oscilloscopes, Function Generators, Manometers.

Caring for and maintaining of Measurement, Test and Calibration equipment includes, but is not limited to; Verification, calibration, adjustment, storage and Certification of in terms of statutory requirements.

Safety precautions include the use of personal protective equipment, electrical and fire protection.

Statutory requirements include but are not limited to ISO/IEC-17025, OSH Act, and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:**SPECIFIC OUTCOME 1**

Select and Inspect Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The Measurement, Test and Calibration equipment is correctly selected according to the job requirement.
2. The maintenance manuals/specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of Measurement, Test and Calibration equipment are recognised and the correct precautions are taken according to workplace procedures and manufacturers specifications.
4. Faulty and unsafe equipment is correctly identified and accurately documented and reported to the relevant personnel during the inspection.

SPECIFIC OUTCOME 2

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The different types of calibration equipment are correctly identified.
2. The various applications applicable to different types of calibration equipment and their associated procedures are correctly identified.
3. The applicable safety precautions are correctly identified for using various types of calibration equipment.
4. The correct regulatory specifications and requirements are identified when using various types calibration equipment.

SPECIFIC OUTCOME 3

Maintain Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The equipment is correctly packed and stored in accordance with manufacture's specification.
2. The equipment is correctly cleaned and inspected for damage before use according to workplace procedures and manufacturers specifications
3. The equipment is correctly tested for satisfactory operation according to manufacturers specifications
4. The deviations from standards are accurately recorded and reported to the relevant personnel

SPECIFIC OUTCOME 4

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The equipment is correctly set-up for calibration purposes according to the workplace procedures and manufacturers specifications.
2. The equipment specifications are correctly tested against manufacturer standards during pre-calibration testing.

3. The deviations from manufacturer standards are accurately recorded.
4. The field instrumentation equipment is correctly calibrated within the tolerances provided for by the manufacturer.
5. The results are accurately recorded and reported to the relevant personnel.
6. The equipment is correctly removed after calibration according to workplace procedures.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Measurement, Test and Calibration equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Measurement, Test and Calibration equipment and their accessories.

Hazards and preventive precautions associated with Measurement, Test and Calibration equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Measurement, Test and Calibration equipment and interpreting job requirements.

Critical Cross-Field Education & Training Outcomes

1. Identify and solve problems
 - Recognise situations that require corrective action
2. Work effectively with others
 - Contribute to workgroup efforts to maintain cleanliness, safety and quality
 - Contribute to working in groups to determine a solution to an identified problem
3. Organise and manage myself and my activities
 - Apply correct procedures for using, storing and caring for test equipment, tools, hydraulic diagrams and components
4. Communicate effectively
 - Use common names for hydraulic components
 - Use common names for test equipment
 - Use common names for hydraulic circuits
 - Fill in the necessary fault reports and material requisition forms
5. Use science and technology effectively and critically
 - Principles of fluid pressure
6. Demonstrate an understanding of the world as a set of related systems
 - Relate the installation of hydraulic circuits to other applications

TITLE: Demonstrate an understanding of basic programmable logic controllers

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of basic programmable logic controllers (PLC)

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic computer literacy

Basic understanding of electricity

Basic digital electronics

UNIT STANDARD RANGE

Type of PLC's used include but is not limited to block PLC's, modular PLC's, screw mounted PLC's, din rail PLC's.

The range of PLC equipment includes but is not limited to central processing unit, input modules, output modules, power supply, back plane.

Programming languages appropriate to the PLC used include but are not limited to Ladder, STL and SFC.

Safety precautions include the use of personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the input/output peripherals of a PLC

ASSESSMENT CRITERIA

1. The correct PLC peripheral is identified. (input/output, discrete, digital, analogue, intelligent)
2. The correct manuals, specifications and drawings are selected for the PLC peripheral in use
3. The hazards associated with the use of peripherals of a PLC are correctly recognised and the necessary precautions taken according to workplace procedures
4. The correct operation of the PLC peripheral device must be demonstrated
5. The PLC peripherals are correctly removed and replaced according to manufactures specifications.

SPECIFIC OUTCOME 2

Demonstrate an understanding of field devices interfaced to programmable logic controllers.

ASSESSMENT CRITERIA

1. The correct field device is identified (pushbuttons, limits, level, pressure devices)
2. The operation of the field device is verified according to the manufactures specification and workplace procedures

3. The field device is correctly connected to the appropriate peripheral as per manufacturers specifications.
4. Appropriate personal safety equipment is correctly selected according to the job requirement and company SHERQ policies.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the processor in a programmable logic controller.

ASSESSMENT CRITERIA

1. The functions of the PLC indicator lights of the processor are correctly explained as per manufacturers operating procedures
2. The PLC battery of the processor is correctly identified, removed & replaced according to manufactures specifications.
3. The faults are correctly diagnosed by utilising the PLC indicator lights as per manufacturers operating procedures
4. The PLC processor mode switch is correctly identified and utilized according to the task instruction and manufacturers operating procedures
5. The PLC communication status indicators are correctly identified and the status correctly explained as per manufacturers operating procedures

SPECIFIC OUTCOME 4

Demonstrate an understanding of the back plane and power supply of a programmable logic controller.

ASSESSMENT CRITERIA

1. The placement of the PLC peripherals and processor on the back plane are correct according to the address structure of the back plane as per manufacturers operating procedures
2. The correct PLC addressing modes are selected on the back plane for the PLC peripheral modules selected.
3. The correct insertion of the PLC power supply is carried out according to manufactures specifications.
4. The correct connections for the PLC redundant power supply have been made as per manufacturers operating procedures

SPECIFIC OUTCOME 5

Demonstrate an understanding of the programming terminal

ASSESSMENT CRITERIA

1. The PLC handheld or programming terminal must be correctly connected to the processor as per manufacturers operating procedures
2. Establish the correct communication between the programmer and the processor as per manufacturers operating procedures
3. The correct sequence is used to monitor the PLC on-line programme that resides in the processor as per manufacturers operating procedures
4. The instruction mnemonics are correctly explained with reference to the field devices as per manufacturers programming manual

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of programmable logic controllers including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of pressure equipment and their accessories.

Hazards and preventive precautions associated with pressure equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty pressure equipment and interpreting job requirements.

TITLE: Maintain Equipment associated with final control elements

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF Level: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain equipment associated with final control elements

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of equipment associated with final control elements

Types of equipment associated with final control elements

Calculations and units of measurement used in equipment associated with final control elements

Physical properties of the product being measured

UNIT STANDARD RANGE

Final control element principles includes but is not limited to Pneumatic, Electric and Hydraulic actuated valves, Power cylinders, Pneumatic or Current converters

The range of equipment associated with final control elements includes any device that changes the value of the measured variable including the associated control elements.

Maintaining equipment associated with final control elements includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate equipment associated with final control elements.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of equipment associated with final control elements is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove equipment associated with final control elements

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The equipment associated with final control elements is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure
2. The correct tools are selected and used according to the job requirements
3. The calibration, test and equipment associated with final control elements is correctly prepared for the calibration process
4. The equipment associated with final control elements is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the equipment associated with final control elements.

ASSESSMENT CRITERIA

- 1 The equipment associated with final control elements is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the equipment associated with final control elements is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of equipment associated with final control elements

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures

4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of equipment associated with final control elements including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of equipment associated with final control elements and their accessories.

Hazards and preventive precautions associated with equipment associated with final control elements.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty equipment associated with final control elements and interpreting job requirements.

TITLE: Maintain analytical equipment

FIELD : Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

LEVEL: 3

CREDITS: 7

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Maintain Analytical equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Principles of analytical measurement

Types of analytical measurement

Calculations and units of measurement used in analytical measurement

Physical properties of the product being measured

UNIT STANDARD RANGE

Analytical measurement principles includes but is not limited to nuclear, electrical conductivity, optic and consistency.

The range of analytical equipment includes but is not limited to conductivity meters, pH meters, densitometers, lead analysers and turbidity meters.

Maintaining analytical equipment includes isolation, removal, calibration, installation and commissioning.

Safety precautions include the use of all personal protective equipment, electrical and fire protection

Statutory requirements include but are not limited to SANS and OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Plan and prepare to isolate and de-isolate analytical equipment.

ASSESSMENT CRITERIA

1. Job requirements are correctly interpreted according to instructions and/or instrumentation diagrams
2. Tools and equipment are correctly selected according to job requirement
3. The location for the isolation of analytical equipment is correctly identified
4. Authorization for access to restricted areas is obtained from the relevant personnel
5. The correct safety equipment and material required is obtained from the appropriate sources
6. The working schedule is effectively communicated to all affected parties

SPECIFIC OUTCOME 2

Isolate and remove analytical equipment

ASSESSMENT CRITERIA

1. The area where isolation is to be carried out is correctly prepared for the isolation procedure
2. The correct tools are selected and used according to the job requirements
3. The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly identified and isolated according to the isolation procedure
4. All safety precautions are adhered to before, during and after the isolation and removal procedure
5. The analytical equipment is correctly removed in accordance with manufacturers procedures

SPECIFIC OUTCOME 3

Calibrate analytical equipment.

ASSESSMENT CRITERIA

1. The correct calibration, test equipment and relevant manuals/data sheets are selected for the calibration procedure
2. The correct tools are selected and used according to the job requirements
3. The calibration, test and analytical equipment is correctly prepared for the calibration process
4. The analytical equipment is calibrated within the tolerances specified by the manufactures calibration manuals
5. The calibration sheets and associated documentation is accurately completed

SPECIFIC OUTCOME 4

Install, de-isolate and commission the analytical equipment.

ASSESSMENT CRITERIA

- 1 The analytical equipment is installed in the correct location as per Measurement, Control and Instrumentation drawing
- 2 The process associated with Measurement, Control and Instrumentation and electrical equipment is correctly de-isolated according to the de-isolation procedures
3. All safety precautions are adhered to before, during and after the installation, de-isolation and commissioning process
4. The correct operation of the analytical equipment is verified according to the workplace operating instructions and Measurement, Control and Instrumentation drawing

SPECIFIC OUTCOME 5

Establish normal conditions after maintenance of analytical equipment

ASSESSMENT CRITERIA

- 1 The waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.
- 2 All tools and equipment are checked, cleaned and correctly stored as per workplace and manufacturers procedures
- 3 The workplace is restored to original state as per housekeeping standards and work site procedures
- 4 All documentation is accurately completed and filed or submitted to the relevant personnel

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of analytical equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of analytical equipment and their accessories.

Hazards and preventive precautions associated with analytical equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty analytical equipment and interpreting job requirements.

TITLE:	Demonstrate an understanding of basic programmable logic controllers
FIELD:	Manufacturing Engineering and Technology
SUBFIELD:	Engineering and related design
UNIT STANDARD ID:	
NQF LEVEL	3
CREDITS	6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field. A person credited with this unit standard will be able to: Demonstrate an understanding of basic programmable logic controllers (PLC)

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic computer literacy

Basic understanding of electricity

Basic digital electronics

UNIT STANDARD RANGE

Type of PLC's used include but is not limited to block PLC's, modular PLC's, screw mounted PLC's, din rail PLC's.

The range of PLC equipment includes but is not limited to central processing unit, input modules, output modules, power supply, back plane.

Programming languages appropriate to the PLC used include but are not limited to Ladder, STL and SFC.

Safety precautions include the use of personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the input/output peripherals of a PLC

ASSESSMENT CRITERIA

1. The correct PLC peripheral is identified. (input/output, discrete, digital, analogue, intelligent)
2. The correct manuals, specifications and drawings are selected for the PLC peripheral in use
3. The hazards associated with the use of peripherals of a PLC are correctly recognised and the necessary precautions taken according to workplace procedures
4. The correct operation of the PLC peripheral device must be demonstrated
5. The PLC peripherals are correctly removed and replaced according to manufactures specifications.

SPECIFIC OUTCOME 2

Demonstrate an understanding of field devices interfaced to programmable logic controllers.

ASSESSMENT CRITERIA

1. The correct field device is identified (pushbuttons, limits, level, pressure devices)
2. The operation of the field device is verified according to the manufactures specification and workplace procedures
3. The field device is correctly connected to the appropriate peripheral as per manufacturers specifications.

4. Appropriate personal safety equipment is correctly selected according to the job requirement and company SHERQ policies.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the processor in a programmable logic controller.

ASSESSMENT CRITERIA

1. The functions of the PLC indicator lights of the processor are correctly explained as per manufacturers operating procedures
2. The PLC battery of the processor is correctly identified, removed & replaced according to manufactures specifications.
3. The faults are correctly diagnosed by utilising the PLC indicator lights as per manufacturers operating procedures
4. The PLC processor mode switch is correctly identified and utilized according to the task instruction and manufacturers operating procedures
5. The PLC communication status indicators are correctly identified and the status correctly explained as per manufacturers operating procedures

SPECIFIC OUTCOME 4

Demonstrate an understanding of the back plane and power supply of a programmable logic controller.

ASSESSMENT CRITERIA

1. The placement of the PLC peripherals and processor on the back plane are correct according to the address structure of the back plane as per manufacturers operating procedures
2. The correct PLC addressing modes are selected on the back plane for the PLC peripheral modules selected.
3. The correct insertion of the PLC power supply is carried out according to manufactures specifications.
4. The correct connections for the PLC redundant power supply have been made as per manufacturers operating procedures

SPECIFIC OUTCOME 5

Demonstrate an understanding of the programming terminal

ASSESSMENT CRITERIA

1. The PLC handheld or programming terminal must be correctly connected to the processor as per manufacturers operating procedures
2. Establish the correct communication between the programmer and the processor as per manufacturers operating procedures
3. The correct sequence is used to monitor the PLC on-line programme that resides in the processor as per manufacturers operating procedures
4. The instruction mnemonics are correctly explained with reference to the field devices as per manufacturers programming manual

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

- # Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.
- # Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.
- # Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of programmable logic controllers including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of pressure equipment and their accessories.

Hazards and preventive precautions associated with pressure equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty pressure equipment and interpreting job requirements.

TITLE: Select, inspect, use and maintain Measurement, Test and Calibration equipment.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 3

CREDITS: 8

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Safely identify, select, inspect, use and maintain Measurement, Test and Calibration equipment used for the calibration of instrumentation.

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Induction to industry

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

Measurement, Test and Calibration equipment include, but are not limited to; Temperature calibration mediums (dry block, bath etc.), Milli-volt/amp sources, Deadweight testers, Decade boxes, Temperature/Pressure calibrators/simulators, Comparators, Oscilloscopes, Function Generators, Manometers.

Caring for and maintaining of Measurement, Test and Calibration equipment includes, but is not limited to; Verification, calibration, adjustment, storage and Certification of in terms of statutory requirements.

Safety precautions include the use of personal protective equipment, electrical and fire protection.

Statutory requirements include but are not limited to ISO/IEC-17025, OSH Act, and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:**SPECIFIC OUTCOME 1**

Select and Inspect Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The Measurement, Test and Calibration equipment is correctly selected according to the job requirement.
2. The maintenance manuals/specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of Measurement, Test and Calibration equipment are recognised and the correct precautions are taken according to workplace procedures and manufacturers specifications.
4. Faulty and unsafe equipment is correctly identified and accurately documented and reported to the relevant personnel during the inspection.

SPECIFIC OUTCOME 2

Demonstrate knowledge of different types and applications of Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The different types of calibration equipment are correctly identified.
2. The various applications applicable to different types of calibration equipment and their associated procedures are correctly identified.
3. The applicable safety precautions are correctly identified for using various types of calibration equipment.
4. The correct regulatory specifications and requirements are identified when using various types calibration equipment.

SPECIFIC OUTCOME 3

Maintain Measurement, Test and Calibration equipment for calibration of process instrumentation.

ASSESSMENT CRITERIA

1. The equipment is correctly packed and stored in accordance with manufacture's specification.
2. The equipment is correctly cleaned and inspected for damage before use according to workplace procedures and manufacturers specifications
3. The equipment is correctly tested for satisfactory operation according to manufacturers specifications
4. The deviations from standards are accurately recorded and reported to the relevant personnel

SPECIFIC OUTCOME 4

Carry out test and calibration jobs with the aid of the applicable Measurement, Test and Calibration equipment.

ASSESSMENT CRITERIA

1. The equipment is correctly set-up for calibration purposes according to the workplace procedures and manufacturers specifications.
2. The equipment specifications are correctly tested against manufacturer standards during pre-calibration testing.

3. The deviations from manufacturer standards are accurately recorded.
4. The field instrumentation equipment is correctly calibrated within the tolerances provided for by the manufacturer.
5. The results are accurately recorded and reported to the relevant personnel.
6. The equipment is correctly removed after calibration according to workplace procedures.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Measurement, Test and Calibration equipment including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Measurement, Test and Calibration equipment and their accessories.

Hazards and preventive precautions associated with Measurement, Test and Calibration equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Measurement, Test and Calibration equipment and interpreting job requirements.

TITLE: Demonstrate Fault finding techniques on Field Instrumentation.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

LEVEL: 3

CREDITS: 8

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Explain the principles and procedures (techniques) to be applied during fault finding on Field Instrumentation

Plan and prepare for fault finding on Field Instrumentation.

Find faults on Field Instrumentation.

Complete fault finding on Field Instrumentation.

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Knowledge of equipment (Range Statement)

Interpret Instrumentation and Process drawings and sketches

Fault finding on field Instrumentation.

Induction to industry

Basic electrical safety

Use and care of relevant testing, measuring equipment and hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to; SANS, Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

This unit standard applies to persons performing faultfinding on Field Instrumentation related to but not limited to; pressure, temperature, level, flow and final control elements.

Work site procedures may include but are not limited to:

- (a) Safety procedures as given in Safety manuals
- (b) Policy procedures as given in Policy manuals
- (c) Installing procedures as given in Manufacturers' and Company maintenance manuals
- (d) Maintaining procedure given in Manufacturers' and Company maintenance manuals

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Explain the principles and procedures (techniques) to be applied during fault finding on Field Instrumentation

ASSESSMENT CRITERIA

1. The safety regulations are correctly explained as set out in the companies safety policies and OSH act
2. The symptoms and analysis of faults on Field Instrumentation are correctly explained
3. The correct fault finding procedures which should be followed for the specific field instrumentation is explained.
4. The techniques applicable to Field Instrumentation are explained.

SPECIFIC OUTCOME 2

Plan and prepare for fault finding on Field Instrumentation

ASSESSMENT CRITERIA

1. The appropriate documentation is acquired according to job instructions
2. The job instructions are effectively communicated with the team leader according to workplace procedures
3. The appropriate personal protective equipment is selected and examined in a manner that protects the individual
4. The appropriate tools, material and equipment for the job are selected and transported to the workplace
5. The work site is examined for hazardous and sub-standard conditions. Critical hazards and sub-standard conditions encountered in a particular context are addressed
6. The work site area is verified according to workplace procedures
7. The consequences of not preparing to find faults in line with specified requirements are explained with reference to personal and team safety, impact on environment, production costs and lost time

SPECIFIC OUTCOME 3

Find faults on Field Instrumentation

ASSESSMENT CRITERIA

1. The correct system operation is determined according to workplace procedures
2. The system operation is observed according to workplace procedures
3. The system operation is analysed according to workplace procedures
4. The fault is correctly diagnosed according to work site procedures
5. The fault is traced by applying the correct techniques and procedures
6. The fault is correctly identified according to the analysis carried out
7. The appropriate safety, good housekeeping and correct environmental practices are followed before, during and after the fault finding activity
8. The correct system operation is determined according to work site procedures

SPECIFIC OUTCOME 4

Complete fault finding on Field Instrumentation

ASSESSMENT CRITERIA

1. The appropriate documentation is completed, filed or submitted to the relevant personnel
2. The correct measuring, test equipment and hand tools are selected and used according to safety policies and manufacturers specifications.
3. The appropriate tests are carried out according to workplace procedures and statutory requirements
4. The tests are accurately recorded and reported to the relevant personnel according to workplace procedures
5. The appropriate repairing, rectifying and faultfinding procedures are carried out according to company quality standards and manufacturers specifications
6. The final testing and commissioning is correctly carried out and all relevant documentation completed and filed or submitted to the relevant personnel

ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the

moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the Field Instrumentation including the use of personal protective equipment, electrical and fire protection.

A basic understanding of:

- (a) The effects of fault finding on production
- (b) Applicable manufactures specifications
- (c) Documentation required for activity
- (d) Characteristics and procedures of equipment

A comprehensive understanding of:

- (a) Applicable work site procedures
- (b) Reporting systems
- (c) Identification, location and function of appropriate tools, measuring instruments, materials, personal protective equipment.
- (d) Names and functions of equipment
- (e) Fault finding principles and procedures (techniques)
- (f) Interpret and draw schematic diagrams
- (g) Potential faults on equipment
- (h) Characteristics and properties of system operations
- (i) Working principles associated with fault finding on Field Instrumentation are theoretically and practically explained

Names, locations and functions of Field Instrumentation and their accessories.

Hazards and preventive precautions associated with Field Instrumentation.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

The following critical outcomes are addressed in this unit standard:

1. Collect, evaluate, organise and critically evaluate information related to Field Instrumentation so that these are accurately interpreted into application performance standards

2. Understand the world as a set of related systems in that fault finding are interrelated with the overall safe and lawful operation in the instrumentation field
3. Organise oneself and one's activities so that all requirements are met in achieving competence in fault finding on Field Instrumentation
4. Identify and solve problems related to the achievement of relevant fault finding competencies.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Field Instrumentation and interpreting job requirements.

**National Certificate in Measurement, Control and Instrumentation: Level 2**

Field: Manufacturing, Engineering and Technology

Sub-field: Engineering and Related Design

Level: 2

Credits: 137

Issue date

Review date

Rationale for the qualification

The need for this qualification has been established by this economic sector. This qualification is aimed at learners who wish to enter this field of economic activity as well as learners who are already in this field and have gained experience in this sub field and wish to receive formal recognition of their experience. This qualification serves as an entry level for learners who wish to follow this career path and forms the basis for further development.

Purpose

Qualifying learners will gain competencies that will promote professionalism in this sub field by being able to:

- Identify, set up and use the appropriate instrumentation equipment
- Read, record analyse and report readings/measurements
- Identify, use and maintain instruments.

Access to the qualification

This qualification series recognizes skills knowledge and values relevant to a workplace. It is designed for learners who:

- have acquired the skills and knowledge without attending formal courses or training.
- are part of a learnership / skills programme which integrates structured learning and work experience.
- have attended courses or training sessions and then apply the knowledge and skills gained to activities in the workplace initiatives.
- have full physical mobility as the Measurement, Control and Instrumentation environment is physically demanding.
- do not suffer from colour blindness which will require testing for, in order to safeguard industry and the learner.

Learning assumed to be in place

- This qualification assumes that the candidate has a General Education and Training Certificate, if candidates do not have such a qualification, learning in preparation for this qualification will also include;
- Language and mathematical literacy and numeracy.
- Science and technology.
- Teamwork.
- Dexterity and technical aptitude.

Qualifying candidates will have the ability to:

- Articulate to the level 3 qualification.
- Perform basic maintenance tasks.

Preamble

Measurement, Control and Instrumentation equipment will refer to flow, temperature, level and pressure field instrumentation. In order to demonstrate an understanding, the learner is given an application, which, if successfully carried out will demonstrate the knowledge component. This application must include the safe handling of the above-mentioned equipment.

Exit Level Outcomes and Assessment Criteria**Exit Level Outcome 1**

The ability to select, use and care for engineering hand and power tools.

Associated Assessment Criteria

- Identify and select the correct tools used for measuring, loosening and fastening of bolts/nuts/screws/couplings, cutting of materials and wires as per manufacturers description.
- Identify and select the full range of Measurement, Control and Instrumentation engineering hand and power tools.
- Inspect tools for chips, ridges, sharpness and hand grips to ensure that they are serviceable.
- Maintain Measurement, Control and Instrumentation tools are maintained as per manufacturer specifications.

Exit Level Outcome 2

The ability to maintain field instruments and equipment.

Associated Assessment Criteria

- Demonstrate an understanding of the planning for maintaining field instruments and equipment
- Demonstrate an understanding of safe working conditions when working with field instruments and equipment.
- Demonstrate an understanding of how to remove field instruments and equipment.
- Demonstrate an understanding of how to install field instruments and equipment.

Exit Level Outcome 3

The ability to identify and explain the purpose of field instrumentation and equipment, in a Measurement, Control and Instrumentation process, with the aid of Instrumentation drawings.

Associated Assessment Criteria

- ❑ Demonstrate an understanding of basic Measurement, Control and Instrumentation drawings, sketches and material lists.
- ❑ Interpret basic Measurement, Control and Instrumentation symbols, drawings and sketches.
- ❑ Identify field instruments and equipment in a process as per Measurement, Control and Instrumentation drawing.
- ❑ Explain the purpose of field instruments and equipment in a control loop within the Measurement, Control and Instrumentation process.

Exit Level Outcome 4

The ability to work effectively with others as a member of team

Associated Assessment Criteria

- ❑ Demonstrate the ability to communicate with peers and members of supervisory/management levels in spoken or written form.
- ❑ Adapt speech to accommodate socio-cultural sensitivities without losing own meaning.
- ❑ Organize and present Measurement, Control and Instrumentation information in a focused and coherent manner.
- ❑ Relationships with peers and supervisory/management levels are established and functioning.

Exit Level Outcome 5

The ability to collect, record and report Measurement, Control and Instrumentation information.

Associated Assessment Criteria

- ❑ Demonstrate an understanding of the SI units.
- ❑ Read and record Measurement, Control and Instrumentation variables.
- ❑ Use grammatical structures and writing conventions to draft an accurate report on Measurement, Control and Instrumentation information collected.

International Comparability

This qualification was compared with the New Zealand Qualifications Authority National Certificate in Industrial Measurement and Control and the Certificate II in Electro-technology – Instrumentation registered on the Australian NQF. in terms of specific outcomes, assessment criteria notional hours and degree of difficulty and the qualifications compare favorably.

Integrated assessment

Integrated assessment at the level of the qualification provides an opportunity for learners to show they are able to integrate concepts, actions and ideas achieved across a range of unit standards and contexts. Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance.

Some assessment aspects will demand practical demonstration while others may not. In some case inference will be necessary to determine competence depending on the nature and context within which performance takes place.

Since this is a foundational qualification, it is necessary to ensure that the fundamental part of the qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for further learning. The assessment should also ensure that all the critical cross-field outcomes have been achieved.

Recognition of Prior Learning:

This qualification may be obtained through RPL. 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.

Articulation Possibilities

This is the first qualification in a series from NQF level 2 through NQF level 3, 4 and 5. This series of qualifications can articulate directly to learning programmes and qualifications in the Measurement, Control and Instrumentation field. It also opens the possibility for further learning in the sub-field of Engineering and related design.

Accreditation and moderation

- A person assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA
- Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant ETQA
- Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQAs policies and guidelines for assessment and moderation; in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies); and in terms of the moderation guideline.
- Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards, exit level outcomes as well as the integrated competence described in the qualification

Criteria for the registration of Assessors

All assessors need to be Subject Matter Experts, qualified one level higher than the level of this qualification and registered with the relevant ETQA

National Certificate in Measurement, Control and Instrumentation (NQF Level 2)

Classification	Unit Standard Titles	NLRD	Level	Credits	Total
Fundamental	Communication and Language Studies				36
	Maintain and adapt oral communication	8962	2	5	
	Access and use information from text	8963	2	5	
	Write for a defined context	8964	2	5	
	Communicate at work	12461	2	5	
	Mathematics and Science				
	Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in two dimensions in different life or workplace context	12444	2	3	
	Demonstrate understanding of rational and irrational numbers and number systems within the context of relevant calculations	8982	2	3	
	Use mathematics to investigate and monitor the financial aspects of personal and community life	7469	2	2	
	Apply basic knowledge of statistics in order to investigate life and work related problems	14085	2	3	
	Work with a range of patterns and basic functions to solve related problems	9007	2	5	
	Sub-total				36
Core	Operate a personal computer system.	7547	2	6	83
	Identify, inspect, use, maintain and care for engineering hand tools	10252	1	6	
	Apply and maintain safety in an electrical environment	9839	1	5	
	Demonstrate an understanding of and maintain pressure equipment		2	6	
	Demonstrate an understanding of and maintain temperature equipment		2	6	
	Demonstrate an understanding of and maintain equipment associated with final control elements		2	6	
	Demonstrate an understanding of and maintain level equipment		2	6	
	Demonstrate an understanding of and maintain flow equipment		2	6	
	Read and interpret basic engineering drawings	9882	2	8	
	Select, use and care for electrical measuring instruments	10237	2	4	
	Understand fundamentals of electricity		2	8	
	Select, use and care for power tools	10255	1	5	

	Demonstrate an understanding of and install instrument impulse lines		2	6	
	Carry out soldering and de-soldering procedures		2	3	
	Sub-total				115
Elective	Perform basic welding/joining of metals	9880	2	8	24 (Min of 10)
	Render basic First Aid	12467	2	4	
	Perform Basic Fire Fighting	12468	2	4	
	Demonstrate an understanding of HIV/AIDS and its implications	8494	2	4	
	Sling Loads	12481	2	4	
	Total				137
Total Credits					Min. of 129 Credits

TITLE: *Demonstrate an understanding of and maintain Pressure equipment*

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain pressure equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Measurement source includes but is not limited to pneumatic and hydraulic

The range of pressure equipment includes but is not limited to pressure gauges, impulse lines, pressure switches, pressure controllers, pressure recorders, pressure indicators.

Caring for pressure equipment includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection, process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining pressure equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of pressure equipment are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with pressure equipment.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove pressure equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.
4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.
5. The pressure equipment is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install pressure equipment.

ASSESSMENT CRITERIA

1. The pressure equipment is correctly installed according to workplace and manufacturers specifications.
2. The pressure equipment is inspected for incurred defects in accordance to workplace and manufacturers specifications.
3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of pressure equipment and their accessories.

Hazards and preventive precautions associated with pressure equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty pressure equipment and interpreting job requirements.

TITLE: Demonstrate an understanding of and maintain Temperature equipment

FIELD: Manufacturing Engineering and Technology

SUBFIELD Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain temperature equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Measurement source includes but is not limited to Resistive temperature measurement sensors, thermocouple devices, pyrometers and thermometers.

The range of Temperature equipment includes but is not limited to temperature gauges, capillary tubes, temperature switches, temperature controllers, temperature recorders and temperature indicators.

Caring for Temperature equipment includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining temperature equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of temperature equipment are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with temperature equipment.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove temperature equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.
4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.
5. The temperature equipment is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install temperature equipment.

ASSESSMENT CRITERIA

1. The temperature equipment is correctly installed according to workplace and manufacturers specifications.
2. The temperature equipment is inspected for incurred defects in accordance to workplace and manufacturers specifications.
3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of temperature equipment and their accessories.

Hazards and preventive precautions associated with temperature equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty temperature equipment and interpreting job requirements.

TITLE: Demonstrate an understanding of and maintain Equipment associated with final control elements

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

Level: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain Equipment associated with final control elements

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Final control elements includes but is not limited to Pneumatic, Electric and hydraulic actuated vales, Power cylinders, Pneumatic to current converters.

The range of final control elements includes any device that changes the value of the measured variable including the associated control elements.

Caring for equipment associated with final control elements includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of equipment associated with final control elements are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.
4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.
5. The equipment associated with final control elements is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install equipment associated with final control elements.

ASSESSMENT CRITERIA

1. The equipment associated with final control elements is correctly installed according to workplace and manufacturers specifications.
2. The equipment associated with final control elements is inspected for incurred defects in accordance to workplace and manufacturers specifications.
3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Equipment associated with final control elements and their accessories.

Hazards and preventive precautions associated with Equipment associated with final control elements.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Equipment associated with final control elements and interpreting job requirements.

TITLE: Demonstrate an understanding of and maintain Level equipment

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain Level equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Measurement source includes but is not limited to Nuclear meters, Ultrasonic, Radio Frequency, Differential pressure equipment, Radar, Magnetic, Optic, Capacitance.

The range of Level equipment includes but is not limited to Level meters, Level switches, Level controllers, Level recorders, Level indicators, Level gauges.

Caring for Level equipment includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining Level equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of level equipment are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with Level equipment.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove Level equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.
4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.
5. The level equipment is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install Level equipment.

ASSESSMENT CRITERIA

1. The level equipment is correctly installed according to workplace and manufacturers specifications.
2. The level equipment is inspected for incurred defects in accordance to workplace and manufacturers specifications.
3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Level equipment and their accessories.

Hazards and preventive precautions associated with Level equipment.

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Level equipment and interpreting job requirements.

TITLE: Demonstrate an understanding of and maintain Flow equipment

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID

NQF LEVEL: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Demonstrate an understanding of and maintain Flow equipment

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Basic electrical safety

Use of hand tools

UNIT STANDARD RANGE

Measurement source includes but is not limited to Turbine meters, Positive displacement meters, Differential pressure equipment, Magnetic Flow, Ultra Sonic.

The range of Flow equipment includes but is not limited to Flow meters, Flow switches, Flow controllers, Flow recorders, Flow indicators, Flow computers.

Caring for Flow equipment includes but is not limited to removing, replacing, adjustment or setting up, cleaning, lubricating and tightening.

Safety precautions include the use of all personal protective equipment, electrical and fire protection and process isolation.

Statutory requirements include but are not limited to SANS, OSH Act and manufacturers specifications.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Demonstrate an understanding of the planning for maintaining Flow equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected according to the job requirement.
2. The repair manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of flow equipment are recognised and necessary precautions taken according to workplace and manufacturers procedures.

SPECIFIC OUTCOME 2

Demonstrate an understanding of safe working conditions when working with Flow equipment.

ASSESSMENT CRITERIA

1. The personal safety equipment is correctly selected and worn according to the job requirement.
2. The pre-operational checks are carried out according to the prescribed safety requirements.
3. The faulty and unsafe equipment is identified and reported to the relevant personnel.

SPECIFIC OUTCOME 3

Demonstrate an understanding of how to remove Flow equipment.

ASSESSMENT CRITERIA

1. The tools are correctly selected and set up according to job requirements.
2. The personal protective equipment applicable to the job is worn.
3. The tools are used correctly and safely in accordance with the job requirements and manufacturers specifications.

4. Correctly identify and isolate the process associated with Measurement, Control and Instrumentation and electrical equipment.

5. The flow equipment is removed and cleaned according to workplace practices and/or manufacturer specifications.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how to install Flow equipment.

ASSESSMENT CRITERIA

1. The flow equipment is correctly installed according to workplace and manufacturers specifications.

2. The flow equipment is inspected for incurred defects in accordance to workplace and manufacturers specifications.

3. Reinstate the process associated with Measurement, Control and Instrumentation and the electrical equipment.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of power tools including the use of personal protective equipment, electrical and fire protection.

Names, locations and functions of Flow equipment and their accessories.

Hazards and preventive precautions associated with Flow equipment.

Company quality standards.

Critical Cross-field Outcomes (CCFO):***UNIT STANDARD CCFO IDENTIFYING***

Identification and problem solving skills - faulty equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting faulty Flow equipment and interpreting job requirements.

TITLE: Demonstrate an understanding of and install Instrument impulse lines.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS: 6

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field.

A person credited with this unit standard will be able to:

Safely identify, select, inspect, install and maintain Instrument impulse lines.
Demonstrate knowledge of different types and applications of Instrument impulse lines
Test for leaks and blockages

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications.

Instrument impulse lines including all associated fittings.

Safety precautions include the use of all appropriate personal protective equipment, electrical and fire protection.

Specific Outcomes and Assessment Criteria:**SPECIFIC OUTCOME 1**

Select and Inspect Instrument impulse lines

ASSESSMENT CRITERIA

1. The Instrument impulse lines are correctly selected according to the job requirement.
2. The maintenance manuals, specifications and drawings are correctly selected according to the job requirement.
3. The hazards associated with the use of instrument impulse lines are recognised and necessary precautions taken according to work site procedures.
4. The damaged and unsafe instrument impulse lines are identified and accurately reported to the relevant personnel.

SPECIFIC OUTCOME 2

Demonstrate knowledge of different types and applications of Instrument impulse lines

ASSESSMENT CRITERIA

1. Accurately identify various types of Instrument impulse lines.
2. Identify various applications for different types of Instrument impulse lines and their associated procedures.
3. Identify applicable safety precautions than need to be taken when using various types of Instrument impulse lines.

SPECIFIC OUTCOME 3

Maintain Instrument impulse lines.

ASSESSMENT CRITERIA

1. Check that instrument impulse lines are correctly installed in accordance with manufacturer specifications and applicable safety requirements.
2. Clean, inspect and replace damaged instrument impulse lines.
3. Test for and repair instrument impulse lines for leaks.
4. Deviations from standards are recorded and reported to the relevant personnel.

SPECIFIC OUTCOME 4

Install and Commission Instrument impulse lines

ASSESSMENT CRITERIA

1. Correctly set-up instrument impulse lines for installation according to workplace and manufacturer specifications.
2. Install and test instrument impulse lines according to prescribed standards.
3. Record deviations from prescribed standards and take corrective action.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Instrument impulse lines including the use of personal protective equipment, electrical and fire protection.

Locations of Instrument impulse lines and their accessories.

Hazards and preventive precautions associated with Instrument impulse lines

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - damaged equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting damaged Instrument impulse lines and interpreting job requirements.

TITLE: Carry out soldering and de-soldering procedures.

FIELD: Manufacturing Engineering and Technology

SUBFIELD: Engineering and related design

UNIT STANDARD ID:

NQF LEVEL: 2

CREDITS: 3

PURPOSE OF THE UNIT STANDARD

This unit standard is for persons in the Manufacturing Engineering and Technology field. A person credited with this unit standard will be able to:

- Safely identify, select, inspect and carry out soldering/de-soldering operations.
- Demonstrate knowledge of different soldering techniques
- Clean and store soldering material and equipment
- Dispose of waste material

This unit standard will contribute to the full development of the learner within the Measurement Control and Instrumentation environment by providing recognition, further mobility and transportability within the field of Manufacturing Engineering and Technology. The skills, knowledge and understanding demonstrated within this unit standard are essential for social and economic transformation and upliftment within the Measurement Control and Instrumentation environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills attitude and / or equivalent:

Safety procedures according to statutory and manufacturer requirements

Use of hand tools

UNIT STANDARD RANGE

Statutory requirements include but are not limited to: Occupational Health and Safety Act, Local Authorities requirements and manufacturers specifications as they relate to the Measurement, Control and Instrumentation environment.

Soldering Equipment including associated tools and protective devices.

Safety precautions include the use of all appropriate personal protective equipment.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA:

SPECIFIC OUTCOME 1

Select equipment and materials for soldering/de-soldering

ASSESSMENT CRITERIA

1. The correct soldering equipment is selected according to the job requirement.
2. The maintenance manuals, specifications and drawings are correctly selected according to the job requirements.
3. Hazards associated with the use of Soldering Equipment are recognised and necessary precautions taken according to work site procedures.
4. Damaged and unsafe Soldering Equipment are identified and reported to the relevant personnel.

SPECIFIC OUTCOME 2

Apply soldering/de-soldering techniques

ASSESSMENT CRITERIA

1. Connections are carefully and correctly cleaned from any dirt or oxidation using the appropriate cleaning materials.
2. The correct soldering/de-soldering techniques for the job are used.
3. The correct Personal Protective Equipment is used and applicable safety precautions are taken when soldering/de-soldering is carried out.

SPECIFIC OUTCOME 3

Inspect solder joint.

ASSESSMENT CRITERIA

1. Ensure that the soldered joints are not dull in color and does not have excessive resin.
2. Ensure the soldered joints do not contain solder globules or insufficient solder that will cause a poor electrical or mechanical connection.
3. Ensure that components or soldering substrate is not scorched by excessive heat.

SPECIFIC OUTCOME 4

Clean & store materials and equipment

ASSESSMENT CRITERIA

1. Soldering Equipment is carefully and correctly cleaned according to workplace and manufacturers instructions.
2. Soldering material and equipment is stored correctly according to workplace and manufacturers instructions.
3. Waste is disposed of correctly according to workplace and manufacturers instructions taking environmental awareness into account.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA by SAQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

Workshop procedures including house keeping practices according to statutory requirements.

Specific work site safety practices relating to the use of Soldering Equipment including the use of personal protective equipment.

Locations of Soldering Equipment and their accessories.

Hazards and preventive precautions associated with soldering

Company quality standards.

CRITICAL CROSS-FIELD OUTCOMES (CCFO):**UNIT STANDARD CCFO IDENTIFYING**

Identification and problem solving skills - damaged equipment identified and reported.

UNIT STANDARD CCFO WORKING

Work effectively with others - working under supervision.

UNIT STANDARD CCFO COMMUNICATING

Communication skills - reporting damaged Soldering Equipment and interpreting job requirements.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Postal Services

Registered by NSB 11, Services, publishes the following unit standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the unit standards upon which qualifications are based. The unit standards can be accessed via the SAQA web-site at www.saga.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum, 1067 Arcadia Street, Hatfield.

Comment on the unit standards should reach SAQA at the address ***below and no later than 1 March 2004***. All correspondence should be marked **Standards Setting – SGB for Postal Services** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431 5144

e-mail: dmphuthing@saga.co.za

JOE SAMUELS

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

National Certificate: Postal Frontline Service Management (NQF Level 5)

Field:	Services
Sub-field:	Consumer Services
Level:	5
Total credits:	130

Rationale

This qualification is designed to meet the workplace-based needs of the Postal Industry that relates to the management of the rendering of frontline service, as expressed by employers and employees. It provides the learner with skills to; handle business pressures due to competitors, improve customer service, manage others and the profitability of an organisation. The qualification equips the learner with competencies that will enhance accessibility to employment in the frontline service environment in the Postal Industry, as well as with generic competencies that are valuable across industries. Learners who qualify will be able to improve their earning ability by obtaining professional competence. Competencies acquired are primarily aimed at optimising the postal service delivery, profitability and image of organisations within the Postal Industry.

Purpose of the qualification

This qualification is aimed at creating a competent workforce in the Postal Industry that will enable the industry to meet current and future needs. It will allow learners within the industry to obtain a nationally recognised qualification in the management of frontline services, whilst simultaneously altering the current negative perception of Postal Industry in South Africa, by increasing the levels of efficiency. Thus it will set a standard to create and ensure quality delivery of all services in the industry. More specifically, the qualification equips frontline managers with the following competencies:

- To handle customer related issues
- To manage frontline operations
- To contribute towards building a customer centric operation
- To market internal clients (suppliers, etc.)
- To manage service operations

Learning assumed to be in place

It is assumed that learners embarking on learning towards this qualification are already competent in the areas of communication and mathematics at NQF level 4 in the Further Education and Training Band, and Life Skills at NQF level 2. These competencies are required in order to communicate verbally and in writing (for example with frontline staff), and in order for workers to conduct themselves professionally.

Access to the qualification

It is advisable that learners have already attained the competencies reflected under "learning assumptions" before embarking on learning towards this qualification.

Rules of combination

This qualification is designed as follows:

Compulsory	Fundamental Unit Standard (25 Credits)
	All Core Unit Standards (85 Credits)
Optional at least 20 credits, from Elective Unit Standards, in the following "modules"	Marketing and sales Manage customer requirements and needs and implement action plans (8 Credits) Manage marketing communications production (12 Credits)
	Project Management Apply a range of project management tools (8 Credits) Develop, implement and manage a project/activity plan (5 Credits)
	Occupational Health Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (8 Credits) Implement policies regarding HIV/AIDS in the workplace (4 Credits)
	Human Resource management Manage Payroll Records (6 Credits) Manage individual careers (5 Credits)

Qualification	Fundamental	25
	Core	85
	Elective	20
Total		130

Exit level outcomes and associated assessment criteria

On achieving this qualification, a learner is able to:

FUNDAMENTAL**1 Manage and lead people in a retail/wholesale business**

Assessment Criteria: People management decisions are based on sound principles and made in the interest of both the organisation and the individuals
A leadership style is selected, which is suited to the situation
An environment is created which is conducive to productivity
Meetings are managed in a way that promotes an efficient and effective manner to achieving desired outcomes

CORE**2 Manage stock and cash at point of sale**

Assessment Criteria: Stock levels are maintained to facilitate efficient and effective operations
Stock is issued to internal and external customers, accurately
Cash is received and issued in transactions, safely

Cash and stock are balanced accurately at the end of a trading period

3 Manage operations in the frontline

Assessment Criteria: Administration is completed, accurately

Transactions are managed to promote accuracy and ethics

General operations and mail operations are managed to facilitate efficient and effective operations

Staff level is optimal for level of operations

4 Manage staff in the frontline

Assessment Criteria: New staff is introduced effectively

Current staff is managed in a way beneficial to both the individual and the organisation and in line with relevant legislation

Conflict is handled constructively for both the individual and the organisation, and in line with relevant legislation

5 Financial and non-financial information is managed in the workplace

Assessment Criteria: Budgets are compiled accurately

Various scenarios are considered and sensitivity analyses are conducted, accurately

Non-financial frontline information is verified, analysed and processed, accurately and according to the organisation's policies and procedures

ELECTIVE (20 Credits)

Manage aspects of marketing and sales relevant to the frontline

Assessment Criteria: Customer needs are analysed to establish a suitable course of action

Course of action to address customer needs is implemented within agreed timeframes, budgets and resource allocations.

Communications media is selected based on the message and target audience

Production communications message is implemented, effectively and efficiently

Manage projects within a predefined context

Assessment Criteria: Schedules and activity plans for project is developed, implemented and monitored in a realistic way

Project management tools are implemented, appropriate to the context

Manage Occupation health and hygiene in a predefined context

Assessment Criteria: Workplace stressors are identified and eliminated or reduced, to promote efficiency and effectiveness of staff

Occupational health and occupational hygiene programmes are developed which are congruent with the organisation's values

HIV/AIDS policy is developed for the workplace, consistent with national requirements.

Perform additional Human resource activities

Assessment Criteria: Payrolls records are compiled accurately and in line with legislative requirements

Career profiles are compiled for individuals to the benefit of the individual and the organisation

Career advancement strategies are identified to facilitate attainment of career goals.

Career plans are produced and made available to relevant parties for career management purposes in line with organisational objectives and legislative requirements.

International comparability

Various international Qualifications Authorities were researched to establish the international alignment of this qualification. These Authorities include:

- Qualifications Curriculum and Assessment Authority for Wales
- National Skills Standards Board Institute, USA
- Australian Qualifications Framework
- Scottish Qualifications Authority
- New Zealand Qualifications Authority
- National Qualifications Authority of Ireland
- Northern Ireland Council for the Curriculum, Examinations and Assessment

The Qualifications and Curriculum Authority, UK, showed close overlap with this qualification

This authority has 2 similar, registered, qualifications:

Title: Mail Operations

Level: 2-Intermediate

Candidates must complete a total of 6 units for the qualifications:

Three mandatory units from Group A:

- Contribute to the Maintenance of Health and Safety in the Workplace
- Contribute to the Security of the Workplace
- Identify and Support Improvements to Customer Service and Business Operations

Group B - One Optional Units

- Separate Mail for Processing
- Sort Mail Manually
- Sort Mail Through Automated Processing Systems
- Deliver Mail to Domestic and Business Customers

Group C - Two Optional Units

- Contribute to Effective Working Relationships
- Meet Customers' Needs for Information and Advice
- Contribute to the Maintenance and Security of Vehicles
- Process Orders using Automated Assembly Systems
- Collect and Transport Mail for Processing
- Contribute to Maintaining the Effectiveness of Mail Processing Machinery

Group D – Optional Additional Units:
Various language Units

The present qualification aligns well with the UK qualifications' compulsory Group A units. The Group B and Group C units are operational and reflects some of the competencies that learners of the present qualification will manage.

In general the UK qualifications overlap, but focuses more on operational competencies rather than the management of the competencies, the latter which was also a need identified in South Africa, and which was to be met by the present qualification

Integrated assessment

Learners are expected to demonstrate competence in a way that integrates all outcomes, showing their ability to integrate concepts, ideas and actions across unit standards, in order to achieve competence that is grounded and coherent in relation to the purpose and exit level outcomes of the qualification. Assessors should make use of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies.

Integrated assessment must assess the quality of the observable performance, as well as the quality of thinking that lies behind it. Assessment tools must thus encourage learners to explain the thinking and decision-making that underpin their performance. Assessment criteria in the unit standards are performance-based (applied competence as opposed to required knowledge only). Workplace experience may be recognised when awarding credits towards this qualification.

A broad range of task-orientated and theoretical assessment tools may be used, and the distinction between practical knowledge and disciplinary knowledge must be maintained

Recognition of prior learning (RPL)

This qualification can be achieved, in part or entirely, through recognition of prior learning. Recognition of prior learning will include formal, informal and non-formal learning and workplace experience, in terms of the criteria laid out.

Any learner wishing to be directly assessed may arrange to do so, without participating in further training or education.

Articulation possibilities

This qualification will allow learners to articulate:

Vertically to: First National Degree: Marketing Management (NQF Level 6)

Horizontally to: National Certificate: Wholesale & Retail Operations Management (NQF Level 5)

Moderation options

Moderation includes both internal and external moderation of assessments at exit points of the qualification and encompasses achievement of the competence described both in unit standards as well as the integrated competence described in the qualification.

Assessment of learner achievements take place at ETQA accredited providers for the provision of programmes that result in the outcomes specified for the National Certificate in Postal Frontline Service Management, NQF level 5. These providers are responsible for the moderation of learner achievements of learners who meet the requirements of each unit standard. Those assessing the outcomes of this qualification should be registered with the relevant ETQA.

A moderator registered with the relevant ETQA will externally moderate each Unit Standard.

Anyone wishing to be assessed against this Qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

Notes to Assessors

Assessors should keep the following principles in mind when designing and conducting assessments against this qualification:

- Focus the assessment activities on gathering evidence in terms of the main outcome expressed in the title to ensure assessment is integrated rather than fragmented. Remember we want to declare the person competent in terms of the title. Where assessment at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes.
- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the learner is able to perform in the real situation.
- Do not focus the assessment activities on each assessment criterion. Rather make sure the assessment activities focus on outcomes and are sufficient to enable evidence to be gathered around all the assessment criteria.
- The assessment criteria provide the specifications against which assessment judgements should be made. In most cases, knowledge can be inferred from the quality of the performances, but in other cases, knowledge and understanding will have to be tested through questioning techniques. Where this is required, there will be assessment criteria to specify the standard required.
- The task of the assessor is to gather sufficient evidence, of the prescribed type and quality, as specified in this unit standard, that the learner can achieve the outcomes again and again and again. This means assessors will have to judge how many repeat performances are required before they believe the performance is reproducible.

All assessments should be conducted in line with the following well documented principles of assessment: appropriateness, fairness, manageability, integration into work or learning, validity, direct, authentic, sufficient, systematic, open and consistent

Component	Level 4			Level 5		
	Proposed Unit Standard Titles	Level	Credits	Proposed Unit Standard Titles	Level	Credits
Fundamental				1 Managing and leading people in a retail/wholesale business (8723)	5	25
Fundamental Total					5	25
Core				2 Manage risks in business (New)	5	15
				3 Manage stock in a frontline (New)	5	15
				4 Manage cash in frontline (New)	5	10
				5 Manage a budget in a frontline environment (New)	5	5
				6 Verify, analyse and process workplace information (New)	5	10
				7 Manage operations in a frontline service environment (New)	5	10
				8 Manage mail operations in a frontline service environment (New)	5	5
				9 Analyse and explain the impact of one's personal interactive style on one's relationship with a client (14522)	5	6
				10 Manage the induction of new staff (7848)	5	5
				11 Participate in management of conflict (14609)	5	4
Core Total					5	85

Component	Level 4			Level 5		
	Proposed Unit Standard Titles	Level	Credits	Proposed Unit Standard Titles	Level	Credits
Elective				12 Manage customer requirements and needs and implement action plans (10053)	5	8
				13 Manage marketing communications production (10062)	5	12
	14 Apply a range of project management tools (10140)	4	8			
				15 Develop, implement and manage a project / activity plan (10043)	5	5
	16 Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (13950)	4	8			
				17 Implement policies regarding HIV/AIDS in the workplace (9224)	5	4
				18 Manage Payroll Records (7882)	5	6
				19 Manage individual careers (11911)	5	5
Elective Total		4	16		5	40
Overall Total		4	16		5	150

Qualification	Fundamental	25
	Core	85
	Elective	20
Total		130

Unit Standards: National Certificate in Frontline Service Management (NQF Level 5)

Title: Manage risks in business

Title: Manage stock in a frontline

Title: Manage cash in frontline

Title: Manage a budget in frontline environment

Title: Verify, analyse and process workplace information

Title: Manage operations in a frontline service environment

Title: Manage mail operations in a frontline service environment

Unit Standards and Specific Outcomes: National Certificate in Frontline Service Management (NQF Level 5)

Title: Manage risks in business

Specific Outcome 1: Promote health, safety and security in the workplace

Specific Outcome 2: Maintain health safety, and security in the workplace

Specific Outcome 3: Control access to workplace

Specific Outcome 4: Identify security risks and implement measures to prevent organisational losses

Title: Manage stock in a frontline

Specific Outcome 1: Perform stock needs analyses to prepare for stock replenishing

Specific Outcome 2: Order stock for stock replenishing

Specific Outcome 3: Receive stock for storage

Specific Outcome 4: Issue stock to internal and external users

Specific Outcome 5: Return stock to supplier

Specific Outcome 6: Check and verify stock on hand

Title: Manage cash in frontline

Specific Outcome 1: Maintain cash floats for a retail period

Specific Outcome 2: Receive cash in frontline

Specific Outcome 3: Transfer cash to relevant party/ies

Specific Outcome 4: Balance cash at end of trading period

Title: Manage a budget in frontline environment

- Specific Outcome 1: Prepare for a budget for a trading period
- Specific Outcome 2: Compile a budget for a trading period
- Specific Outcome 3: Manage a budget for a trading period
- Specific Outcome 4: Minimise expenditure for compliance to set budget

Title: Verify, analyse and process workplace information

- Specific Outcome 1: Verify processed information in the workplace
- Specific Outcome 2: Verify face-value documents in the workplace
- Specific Outcome 3: Analyse processed information to show relevance and impact in the industry
- Specific Outcome 4: Process information for future reference

Title: Manage operations in a frontline service environment

- Specific Outcome 1: Perform general administrative duties of frontline management
- Specific Outcome 2: Authorise transactions in the frontline
- Specific Outcome 3: Ensure sound asset usage and control in the frontline
- Specific Outcome 4: Maintain staff levels to an optimum
- Specific Outcome 5: Ensure effective application of Service Level Agreements applicable to the frontline
- Specific Outcome 6: Conduct financial audits relevant to the frontline
- Specific Outcome 7: Maintain outlet image congruent with that of the organisation

Title: Manage mail operations in a frontline service environment

- Specific Outcome 1: Control received mail in frontline
- Specific Outcome 2: Manage processing of mail in frontline
- Specific Outcome 3: Ensure handling of mail is according with policies and procedures
- Specific Outcome 4: Control mail dispatches from frontline

MANAGE RISKS IN BUSINESS

Unit Standard NLRD Number:
NQF Level: 5

Credits: 15

Field: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

Competence in this unit standard will enable the learner to create and maintain a secure environment to conduct business. The learner will be able to manage environmental, financial- and human resources' safety, health and security risks, and prevent possible losses.

The unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector.

The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Persons attempting this unit standard should have managerial, problem solving, situational analysis, decision making and communication skills.

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Promote health, safety and security in the workplace	1.1 A safe and healthy environment is promoted in line with organisation's policies and procedures 1.2 Training on health, safety and security protocols in the workplace is provided according to organisation's policies and procedures 1.3 Hazards to any work-related activity is identified and corrective actions implemented in line with safety requirements 1.4 All work-related incidents/accidents are investigated and reported on the prescribed documentation 1.5 First aid or medical treatment is arranged for the injured

		using correct channels
2. Maintain health safety, and security in the workplace	2.1	Systems of work, plant and machinery are maintained to be safe and without risk to health and safety according to legislation
	2.2	Potential hazards to any work-related activity is identified and corrective actions implemented according to legislation and organisation's protocol
	2.3	Non-compliance to the requirements of legislation is identified and rectified to be congruent with legislation and organisation's protocol
	2.4	Own behaviour with regard to health and safety, and security is of high standard and in accordance with job description
3. Control access to workplace	3.1	Ensure access to workplace is limited, compliant with workplace regulations
	3.2	Ensure access to workplace systems is limited, compliant with workplace regulations
	3.3	Identify access irregularities according to organisation's security protocol
	3.4	Implement corrective measures for violations, according to organisation's policies and procedures
4. Identify security risks and implement measures to prevent organisational losses	4.1	Security risks are identified according to organisation's security protocol
	4.2	Procedures are drawn up and implemented to minimise potential losses congruent with legislation and organisation's protocol
	4.3	Security risks identified are reported to the relevant authority
	4.4	All possible risks are communicated clearly to staff through appropriate communication channel
	4.5	Staff are trained in all aspects of security risks according to organisation's policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Workplace may include any premises or place where a person performs work in the course of his employment.

Emergency situations may include but not limited to floods, fires, armed robberies and bomb scares.

Injuries may include, but not limited to cuts, fractions, shock, burns and smoke inhalation.

Fire fighting equipment may include, but not limited to handheld fire extinguishers, fire hoses and sprinkler valve system.

Particulars of figures and relevant statements may include, but not limited to balance sheet, stock-cash-, transaction documents, receipt books, recorded items, enquiry book, shortage reports, surplus reports and management reports

Policies may include but not limited to financial policies and security policies

Access may include any place or system where a person performs work or use in the course of his employment.

Procedures may include but not limited to key control, system access control, security measures and secrecy

Security risks may include but not limited to financial risks, HR risks, Health and safety risks

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	All	1.3; 1.4; 2.2; 2.3; 3.3; 3.4; 4.3; 4.4
Work effectively with others	3; 4	3.1 - 3.4; 4.4
Employ self management	All	All
Manage information	All	1.3; 1.4; 2.2; 2.3; 3.3; 3.4; 4.3; 4.4
Communicate effectively	3; 4	3.1 - 3.4; 4.4
Demonstrate scientific and technological competence	1	All
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Company code of conduct
- Company security policies
- Company operating procedures
- Health and Safety Act
- Usage of security equipment
- In depth understanding of security aspects and standard operating procedures of the relevant business.

MANAGE STOCK IN A FRONTLINE SERVICE ENVIRONMENT**Unit Standard NLRD Number:****NQF Level:** 5**Credits:** 15**Field:** Services**Sub-field:** Consumer Services**Issue Date:****Review Date:****Purpose:**

Competence in this unit standard will enable the learner to integrate stock management principals and theories with business performance, providing a learner with a generic management competency. The unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well a generic competency, transferable to other industries.

The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Perform stock needs analyses to prepare for stock replenishing	1.1 Stock inventory or record is obtained, maintained and updated according to organisation's procedures and protocol 1.2 Stock flow is analysed based on historic figures 1.3 Stock requirements for a specific period are determined based on stock flow analyses 1.4 Stock requirements for a specific period are recorded on relevant systems 1.5 Established needs are adjusted according to new market requirements and standard analytical practices.
2. Order stock for stock replenishing	2.1 Calculated stock to be ordered is captured and documented on relevant systems 2.2 Particulars on the completed requisition are verified for accuracy

	2.3	Requisitions are authorised using correct channels
	2.4	Requisitions are forwarded to the relevant supplier ethically and using correct channels
3. Receive stock for storage	3.1	Stock is received from supplier ethically and using correct channels
	3.2	Stock items received are checked for damage or variances according to organisation specific procedures.
	3.3	Stock items received are verified for correctness against consignment documents
	3.4	Discrepancies between stock ordered and stock received are rectified according to organisation specific procedures.
	3.5	Stock is stored in accordance with product or range requirements
	3.6	Stock inventory or record is updated, timeously
	3.7	Stock is accounted for, accurately
4. Issue stock to internal and external users	4.1	Calculations of the amounts on the order from are verified to be accurate
	4.2	Where applicable, stock is compared with the cash received, accurately.
	4.3	Stock is obtained from place of storage and checked for damage or variances, accurately.
	4.4	Particulars of all stock to be issued are recorded and accounted for on relevant systems.
	4.5	Stock to be issued is packed and despatched or handed over according to specific requirements.
	4.6	Acknowledgement of receipt of stock is obtained and recorded on relevant systems.
5. Return stock to supplier	5.1	Stock to be returned is identified and removed from place of storage, accurately and ethically.
	5.2	Particulars of stock to be returned is captured on the stock return document, accurately
	5.3	Stock to be returned is accounted for on relevant systems
	5.4	Stock to be returned is packed and despatched to relevant supplier according to specific requirements.
6. Check and verify stock on hand	6.1	All relevant stock records and documentation are obtained at specified intervals and prepared for stock checking/stock taking according to organisation's policies and procedures.
	6.2	Stock items are counted, calculated and recorded, accurately and on relevant systems
	6.3	Calculated stock figures are compared and confirmed with stock figures on record, accurately
	6.4	Discrepancies are recorded and resolved accurately and on relevant systems.
	6.5	All relevant stock records and documentation are obtained at specified intervals and prepared for stock checking/stock taking, according to organisation's policies and procedures.

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures

will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Stock may include, but not limited to postage stamps, revenue stamps, post cards, earograms, game cards, and savings certificates, cheques and receipt books, stationary, consumables, cleaning material, containers, electric equipment and furniture.

Stock inventory or record may include, but not limited to, main stock book, company records, minimum and maximum stock levels, company manuals

Determining stock requirements for a specific period may include, but not limited to, daily weekly, monthly, quarterly, half yearly, annually

Techniques and electronic equipment for counting quantities of stock may include, but not limited to, physical counts, scanners, calculators, bank note counting device, electronic device printouts

Techniques for conducting a needs analysis and standard analytical practices may include, but not limited to, past or future trends or data, external factors, business plans, special projects or issues to be launched, monitoring the rate of sales

A range of stock characteristics may include, but not limited to, stock type, colour, price, weight, packing, bar code, number of units, seals

Place of storage may include, but not limited to, safes, strong rooms, shelves, cupboards, money drawers, cages, store rooms.

Categories of stock may include, but not limited to, Sellable stock, non perishable goods, high value stock, electronic stock, stationary, cleaning materials, office furniture, consumable stock

Packing containers may include, but not limited to, envelopes, canvass – or plastic bags, roll-tainers, trays, boxes, crates

Techniques and electronic equipment for counting quantities of stock may include, but not limited to, scanners, physical counts, calculators, bank note counting device, electronic device printouts

Criteria against which stock is evaluated may include, but not limited to, damaged stock, expired ranges of stock, discontinued ranges of stock

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	6	6.4
Work effectively with others	3; 4; 5	3.1; 4.6; 5.4
Employ self management	All	All
Manage information	All	All
Communicate effectively	3; 4; 5	3.1; 4.6; 5.4
Demonstrate scientific and technological competence	2; 4; 5; 6	2.1; 4.4; 4.6; 5.3; 6.2; 6.4
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Company operational systems, procedures and policies
- Company vision, mission and operational objectives
- Principals of stock control.
- Stock control methodologies

MANAGE CASH IN A FRONTLINE SERVICE ENVIRONMENT

Unit Standard NLRD Number:
NQF Level: 5

Credits: 15

Field: NSB11: Postal Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

Competence in this unit standard will enable the learner to manage cash in a frontline service environment, providing a learner with a generic management competency. The unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well a generic competency, transferable to other industries. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Maintain cash floats for a retail period	1.1 Cash floats are determined accurately 1.2 Points of sale have breakdown of cash to facilitate effective operation 1.3 The difference between required cash float and cash on hand is addressed in accordance with organisation's policies and procedures 1.4 Float discrepancies are identified, accurately 1.5 Float discrepancies are corrected in accordance with organisation's policies and procedures
2. Receive cash in frontline	2.1 Cash received is counted and verified for accuracy 2.2 Receipt of cash is acknowledged using relevant systems 2.3 Cash is stored and arranged in line with standard operation procedures

3. Transfer cash to relevant party/ies	2.4	Cash is stored safely
	3.1	Requisition for cash or cash banked is verified for accuracy and, where applicable, prepared according to standard operation procedures
	3.2	Cash is counted and verified against requisition for accuracy
	3.3	Cash is prepared and recorded on relevant systems
	3.4	Cash is transferred safely, ethically and according to organisation's policies and procedures
	3.5	Acknowledgement of receipt of cash is obtained and recorded on relevant systems
4. Balance cash at end of trading period	4.1	Cash records and documentation are obtained and prepared for balancing.
	4.2	Cash on hand is counted and accounted for, accurately
	4.3	Transaction documents are accounted for ethically and according to organisation's policies and procedures
	4.4	Cash balance is completed to confirm balancing, fully and accurately

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

The range of this unit standard is reflected in the Specific Outcomes, Assessment Criteria and Embedded Knowledge of this unit standard

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	1	1.5
Work effectively with others	3	3.5
Employ self management	All	All
Manage information	All	All
Communicate effectively	3	3.5
Demonstrate scientific and technological competence	2; 3	2.2; 3.3
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Cash management
- Company specific procedures
- Banking procedures and rules

MANAGE A BUDGET FOR FRONTLINE SERVICE ENVIRONMENT

Unit Standard NLRD Number:
NQF Level: 5

Credits: 5

Field: NSB 11: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:.

Competence in this unit standard will enable the learner to manage a budget in the workplace, providing a learner with some generic management competencies. It will enable the learner to make decisions, consider options and communicate according to available information. Thus the unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well a generic competency, transferable to other industries. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Prepare for a budget for a trading period	1.1 Various types of budgets are considered and one is selected appropriate to the purpose 1.2 Statistical and historical data is collected and recorded to prepare for budgeting on relevant systems 1.3 Data for budget is scrutinised for suitability 1.4 Data for budget is analysed for suitability
2. Compile a budget for a trading period	2.1 Budget is compiled on past actual figures; future trends and targets 2.2 Budget type selected applied accurately and appropriately 2.3 Various scenarios are considered which may affect

	2.4	projections Sensitivity analyses are performed to assess likely impact of various external and internal factors
3. Manage a budget for a trading period	3.1 3.2 3.3 3.4	The actual income and expenditure figures are compared against target / approved budget, accurately Variances are detected, accurately Reasons for variances are analysed to determine the impact of the various factors Corrective measures for variances are implemented to ensure adherence to overall budget
4. Minimise expenditure for compliance to set budget	4.1 4.2 4.3 4.4	Areas of over- expenditure are identified, accurately Cost savings strategies are developed in accordance with organisation's policies and procedures Cost savings strategies are communicated clearly and effectively Cost savings strategies are implemented and maintained in accordance with organisation's policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.

The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Compiling and managing the budget may include, but not limited to, previous budgets, financial statements, past, current and future trends, completed balances

Expenditure may include but not limited to staff, operating, capital expenditure

Notes:**Critical cross-field outcomes**

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	2; 4	2.4; 4.4
Work effectively with others	4	4.3
Employ self management	All	All
Manage information	All	All
Communicate effectively	4	4.3
Demonstrate scientific and technological competence	1; 2	1.2; 2.2
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

Basic concepts and principals of budgeting

Company specific procedures of budgeting

VERIFY, ANALYSE AND PROCESS WORKPLACE INFORMATION

Unit Standard NLRD Number:

NQF Level: 5

Credits: 10

Field: NSB 11: Services

Sub-field: Consumer Services

Issue Date:

Review Date:

Purpose:

Competence in this unit standard will enable the learner to verify, analyse and process workplace information, providing a learner with a generic management competency. It will enable the learner to make decisions, consider options and communicate according to the information. Thus the unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well a generic competency, transferable to other industries. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4.

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Verify processed information in the workplace	1.1 Particulars and figures on transaction documents are checked to be accurate and verified for correctness 1.2 Checked and verified particulars and figures are recorded on relevant systems 1.3 Checked and verified particulars and figures are summarised, where applicable, using appropriate summary methods 1.4 Transaction documents and statements are disposed of according to organisation's policies and procedures
2. Verify face-value documents in the workplace	2.1 Particulars on face-value documents are verified for correctness, and accurate recording 2.2 Irregularities on workplace documents are identified and

	2.3	recorded on relevant systems
	2.3	Corrective action plans are implemented according to organisation's policies and procedures
	2.4	Face-value documents as disposed of according to organisation's policies and procedures
3. Analyse processed information to show relevance and impact in the industry	3.1	Trends, according to operational needs, are determined, accurately
	3.2	Changes and strategies are implemented according to organisation's policies and procedures
	3.3	Discrepancies are determined and recorded on relevant systems
	3.4	Remedial actions are implemented according to organisation's policies and procedures
	3.5	Forecasts are determined and operations planned according to organisation's policies and procedures
4. Process information for future reference	4.1	Statistical and historical information is recorded timeously
	4.2	Information is captured accurately
	4.3	Processed information is communicated timeously and accurately
	4.4	Processed information is disposed of according to organisation's policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Methods of verification of processed information may include, but not limited to balance sheets, transaction documents, transaction statements, price lists, stock volumes, financial point of sale system reports, master schedules, activity lists, quality reports, management reports

Face-value documents and items may include, but not limited to vouchers, money orders, postal orders, bank cheques and postal articles

Trends may include but not limited to financial, sales, performance and volume trends

Discrepancies may include but not limited to financial discrepancies, variances and tasks

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems		2.3; 3.4
Work effectively with others	4	4.3
Employ self management	All	All
Manage information	All	All
Communicate effectively	4	4.3

Demonstrate scientific and technological competence	1; 2; 3	1.2; 2.2; 3.3
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Company systems, procedures and policies
- Principles of processing workplace information
- Company vision, mission and operational objectives
- Legislation with regards to financial systems (ECT Act)

MANAGE OPERATIONS IN A FRONTLINE SERVICE ENVIRONMENT

Unit Standard NLRD Number:
NQF Level: 5

Credits: 15

Field: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

Competence in this unit standard will enable the learner to manage frontline service operations, providing a learner with a generic management competency. It will enable the learner to make decisions, consider options and communicate according to available information. Thus the unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well a generic competency, transferable to other industries. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Perform general administrative duties of frontline management	1.1 Communication is handled, initiated and constructed according to requirements 1.2 Notifications are prepared and disposed of according to organisation's policies and procedures 1.3 Suspension of services are affected ethically and according to organisation's policies and procedures 1.4 Certification of documents are done according to organisation's policies and procedures 1.5 Policies and procedures are updated, communicated and implemented effectively and clearly 1.6 Statistical data is collected and disposed of according to organisation's policies and procedures 1.7 Employees are remunerated ethically and according to organisation's policies and procedures

	1.8	Records are filed or disposed of according to organisation's policies and procedures
2. Authorise transactions in the frontline	2.1	Need and applicability for authorisation is communicated clearly
	2.2	Transactions are authorised according to organisation's policies and procedures
	2.3	Authorisation particulars are recorded on transaction documentation accurately
	2.4	Authorisation documentation is disposed of according to organisation's policies and procedures
3. Ensure sound asset usage and control in the frontline	3.1	Buildings and equipment are correctly inspected and the information recorded accurately to determine reparation and maintenance needs.
	3.2	Equipment and assets are utilised according to specified procedures and correctly
	3.3	Arrangements are made for defective assets and equipment to be repaired and maintained according to organisation's policies and procedures
	3.4	Assets are recorded, maintained and verified for correctness.
4. Maintain staff levels to an optimum	4.1	Staff complement needed is determined according to operations projections
	4.2	Staff and workload requirements are balanced and in line with legislation
	4.3	Staff shortages and surpluses are identified accurately
	4.4	Staff requirements are escalated according to projected operational needs
5. Ensure effective application of Service Level Agreements applicable to the frontline	5.1	The role of Service Level Agreements is established, clearly
	5.2	Service Level Agreements are applied and adhered to according to legislation and organisation's policies and procedures
	5.3	Guidance to staff is communicated regarding Service Level Agreements, clearly and effectively
	5.4	Service Level Agreements are negotiated and adjusted where necessary according to legislation and organisation's policies and procedures
6. Conduct financial audits relevant to the frontline	6.1	Stock items are verified for correctness
	6.2	Cash is counted and accounted for, accurately
	6.3	Particulars or figures of stock and cash are verified for correctness and compared with relevant statements accurately
	6.4	Discrepancies in particulars or figures are recorded on relevant systems and rectified according to protocol
7. Maintain outlet image congruent with that of the organisation	7.1	An accommodative and friendly frontline service environment is created and maintained congruent with that of the organisation
	7.2	Image and ambience of the outlet is such to attract and retain customers congruent with that of the organisation
	7.3	Physical appearance of frontline staff is encouraged, optimally
	7.4	Good demeanour of frontline staff toward customers is encouraged, optimally

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

General administrative duties may include, but not limited to, compiled reports, certified documents, statistical statements, non-payment record, financial statements, ad-hoc sundry payments,

Correspondence and communication may include, but not limited to, letter, fax, circular, memo, news letter, file, instruction directive, telephone call, complaint report, enquiry report, business report

Preparation of remuneration statements may include, but not limited to, attendance record, overtime record, staff record, salary statement, salary scale.

Disposing of records may include, but not limited to, dust bin, re-cycling bin, shredder, incinerator, filing, strong room

Authorisation may include but not limited to financial transactions, postal transactions, banking transactions, bank book, account particulars, bank card, withdrawal slip, financial system, record book, balance sheets

Managing assets and equipment may include, but not limited to, building inspection tick sheet, record book, OSHACT inspection sheet, emergency evacuation plans, fire drills, fire extinguishers, fire hoses, first aid kits, security alarms, asset register, approved budget, tender procedures, computer equipment, electronic equipment, training equipment, furniture, fittings

Improve outlet image may include, but not limited to branding, cleanliness, neatness, greenery, uniform, name badges, friendliness, layout

Notes:**Critical cross-field outcomes**

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	1; 3; 4	1.3; 3.3; 4.2
Work effectively with others	1; 2; 5; 7	1.2; 2.1; 5.3; 7.3; 7.4
Employ self management	All	All
Manage information	All	All
Communicate effectively	1; 2; 5; 7	1.2; 2.1; 5.3; 7.3; 7.4
Demonstrate scientific and technological competence	6	6.4
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Basic Business Communication
- Company specific operational procedures and policies

MANAGE MAIL OPERATIONS IN A FRONTLINE SERVICE ENVIRONMENT

Unit Standard NLRD Number:
NQF Level: 5

Credits: 5

Field: NSB 11: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

Competence in this unit standard will enable the learner to manage frontline mail operations, providing a learner with postal industry competencies, and also some generic management competency. It will enable the learner to make decisions, consider options and communicate according to available information. Thus the unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, leading to greater levels of productivity and quality in this sector, as well as a generic competency, transferable to other industries. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry, and society as a whole.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 4
- Mathematics, NQF Level 4

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Control received mail in frontline	1.1 Consignment of incoming mail is checked for correctness and verified to be correct against consignment note 1.2 Mail is transferred to relevant section 1.3 The opening of containers and the determining of volumes are supervised according to organisation's policies and procedures 1.4 Staff is scheduled to handle established volumes of mail
2. Manage processing of mail in frontline	2.1 Mail items are separated according to type according to organisation's policies and procedures 2.2 Mail items are processed according to organisation's policies and procedures 2.3 Mail items are selected and tested at specified intervals for compliance to set standards. 2.4 The quality check results are recorded on relevant systems

	2.5	Quality discrepancies are rectified according to organisation's policies and procedures and forwarded to relevant sections.
3. Ensure handling of mail is according with policies and procedures	3.1	Recorded items are handled, securely
	3.2	Correctness of particulars and figures of recorded items in mail record is checked and verified in relation to relevant office records
	3.3	Discrepancies discovered in mail balance check are recorded on relevant systems
	3.4	Corrective measures are implemented according to organisation's policies and procedures
4. Control mail dispatches from frontline	4.1	Entries of special enclosures on container note are witnessed and countersigned on container note, where applicable, according to organisation's policies and procedures
	4.2	Closure of mail containers is supervised according to organisation's policies and procedures
	4.3	The despatch of all outgoing mail is supervised according to organisation's policies and procedures
	4.4	The despatch of all outgoing mail is documented on relevant systems

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Managing the consignment of incoming mail may include, but not limited to, mail bags, envelopes, trays, roll-tainers, mail list, tick sheet, consignment note, tracking document, record book, sealing equipment

Ensuring quality checks on mail may include, but not limited to mail balance, private boxes and – bags, spot checks, quality check, report, record book, letter – and parcel bill

Procedural handling of recorded items may include, but not limited to, mail item, mail balance, office record, delivery notification, despatch bill, container note

Entries of special enclosures may include, but not limited to, postal orders, official remittances, savings bank, bank parcels, secure mail items

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	2; 3	2.5; 3.4
Work effectively with others	All	All
Employ self management	All	All
Manage information	All	All

Communicate effectively	All	All
Demonstrate scientific and technological competence	3; 4	3.3; 4.4
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

Handling and processing of mail

Company specific mail operations policies and procedures

Legislation with regard to postal operations

Further Education and Training Certificate: Postal Frontline Service (NQF Level 4)

Field:	Services
Sub-field:	Consumer Services
Level:	4
Total credits:	148

Rationale

This qualification is designed to meet the workplace-based needs of the Postal Industry that relates to the rendering of Frontline Service, as expressed by employers and employees. The qualification equips the learner with competencies that will enhance accessibility to employment in the Postal Industry, whilst also providing flexibility to facilitate the pursuit of different career opportunities. Learners who qualify will be able to improve their earning ability, by obtaining professional competence (simultaneously addressing their basic needs for security and improving their skills base and marketability). The generic nature of some competencies will allow for transferability, facilitating the address of national, through to individual, needs. Competencies acquired are primarily aimed at optimising the service delivery, profitability and image of organisations within the Postal Industry and the retail industry in general.

Purpose of the qualification

This qualification is aimed at creating a competent workforce in the Postal Industry that will enable the industry to meet current and future needs. It will allow learners within the industry to obtain a nationally recognised qualification in the rendering of frontline service, whilst simultaneously altering the current negative perception of Postal Industry in South Africa, by increasing the levels of efficiency. Thus it will set a standard to create and ensure quality delivery of all mail products in postal industry.

On completion of this qualification the learner will be able to:

- Provide effective frontline service
- Improve customer relations in the community

Learning assumed to be in place

It is assumed that learners embarking on learning towards this qualification are already competent in the areas of communication, mathematics and computer literacy at NQF level 3 in the Further Education and Training Band, and Life Skills at NQF level 2. These competencies are required in order to render frontline services, and in order for workers to conduct themselves professionally.

Rules of combination

This qualification is designed as follows:

Compulsory	All Fundamental Unit Standards (36 Credits)
	All Core Unit Standards (95 Credits)
Optional at least 10 credits, from Elective Unit Standards, in the following "modules"	IT Demonstrate basic knowledge of computers (6 Credits) Produce a word processing document for business (5 Credits) Produce a use spreadsheets for business (5 Credits) Produce presentation documents for business (5 Credits)
	Junior Management Apply a range of project management tools (8 Credits) Analyse the skills development legislation and apply it in the workplace (4 Credits) Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (8 Credits)

Qualification	Fundamental	56
	Core	82
	Elective	10
Total		148

Exit level outcomes and associated assessment criteria

On achieving this qualification, a learner is able to:

FUNDAMENTAL

- 1 Use and interpret language effectively for verbal and non-verbal communication

Assessment criteria: Verbal and non-verbal communication is used effectively

Text and subtext of verbal and non-verbal communication is identified and acted on

Communication is used to learn individually or in groups, effectively and efficiently

- 2 Use mathematics for personal and business applications

Assessment criteria: National regional and personal budgets are analysed

Calculations and the use of statistics are correct

Calculations and instruments are used and taken into account when reporting final values.

- 3 Manage transactions in executing frontline service

Assessment criteria: Transactions are captured, processed and analysed, accurately

Cash rendered and reimbursed in transactions is controlled accurately

Stock and cash is handled and stored securely and according to organisation's policies and procedures

Transactions are balanced at the end of a trading period

Customers are attended to in accordance with organisation's values

4 Market products and services in the execution of frontline service

Assessment criteria: Products and services are promoted and marketed ethically

Self analysis is conducted in a way congruent with organisation's values

Reflection and self improvement is continuous for personal development

5 Perform general frontline service activities

Assessment criteria: Stock is controlled so that frontline operations are not hampered

Suppliers are dealt with ethically and according to organisation's policies and procedures

Frontline transactions are analysed to provide trade insights

Documentation and correspondence is dealt with accurately, efficiently and effectively

ELECTIVE (10 Credits)

3. Use information technology in the workplace to enhance overall efficiency and effectiveness

Assessment criteria: The need for and applications of information technology is placed within the workplace context

Applications of information technology is used in the workplace to the benefit of the individual and the organisation

4. Perform various junior management tasks in the workplace

Assessment criteria: Projects are managed using predefined tools, appropriately

Advice is given on the development of skills of others to the benefit of the individual and the organisation

Risks relating to occupational health and occupational hygiene are managed to ensure compliance to legislation

Access to the qualification

It is advisable that learners have already attained the competencies reflected under "learning assumptions" before embarking on learning towards this qualification.

International comparability

Various international Qualifications Authorities were researched to establish the international alignment of this qualification. These Authorities include:

- Qualifications Curriculum and Assessment Authority for Wales
- National Skills Standards Board Institute, USA
- Australian Qualifications Framework
- Scottish Qualifications Authority
- New Zealand Qualifications Authority
- National Qualifications Authority of Ireland
- Northern Ireland Council for the Curriculum, Examinations and Assessment

The Qualifications and Curriculum Authority, UK, showed close overlap with this qualification. This authority has 2 similar, registered, qualifications:

Title: Mail Operations

Level: 2-Intermediate

Candidates must complete a total of 6 units for the qualifications:

Three mandatory units from Group A:

- Contribute to the Maintenance of Health and Safety in the Workplace
- Contribute to the Security of the Workplace
- Identify and Support Improvements to Customer Service and Business Operations

Group B - One Optional Units

- Separate Mail for Processing
- Sort Mail Manually
- Sort Mail Through Automated Processing Systems
- Deliver Mail to Domestic and Business Customers

Group C - Two Optional Units

- Contribute to Effective Working Relationships
- Meet Customers' Needs for Information and Advice
- Contribute to the Maintenance and Security of Vehicles
- Process Orders using Automated Assembly Systems
- Collect and Transport Mail for Processing
- Contribute to Maintaining the Effectiveness of Mail Processing Machinery

Group D – Optional Additional Units:

Various language Units

The present qualification aligns well with the UK qualifications' compulsory Group A units and optional Group C units, which are customer and health and safety oriented.

Integrated assessment

Learners are expected to demonstrate competence in a way that integrates all outcomes, showing their ability to integrate concepts, ideas and actions across unit standards, in order to achieve competence that is grounded and coherent in relation to the purpose and exit level outcomes of the qualification. Assessors should make use of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies.

Integrated assessment must assess the quality of the observable performance, as well as the quality of thinking that lies behind it. Assessment tools must thus encourage learners to explain the thinking and decision-making that underpin their performance. Assessment

criteria in the unit standards are performance-based (applied competence as opposed to required knowledge only). Workplace experience may be recognised when awarding credits towards this qualification.

A broad range of task-orientated and theoretical assessment tools may be used, and the distinction between practical knowledge and disciplinary knowledge must be maintained.

Recognition of prior learning (RPL)

This qualification can be achieved, in part or entirely, through recognition of prior learning. Recognition of prior learning will include formal, informal and non-formal learning and workplace experience, in terms of the criteria laid out.

Any learner wishing to be directly assessed may arrange to do so, without participating in further training or education.

Articulation possibilities

This qualification will allow learners to articulate:

Vertically to: National Certificate in Frontline Management (NQF Level 5)

Horizontally to: National Certificate: Management (NQF Level 4)

Moderation options

Moderation includes both internal and external moderation of assessments at exit points of the qualification and encompasses achievement of the competence described both in unit standards as well as the integrated competence described in the qualification.

Assessment of learner achievements take place at ETQA accredited providers for the provision of programmes that result in the outcomes specified for the Further Education and Training Certificate in Postal Frontline Service, NQF level 4. These providers are responsible for the moderation of learner achievements of learners who meet the requirements of each unit standard. Those assessing the outcomes of this qualification should be registered with the relevant ETQA.

Each Unit Standard will be externally moderated by a moderator registered with the relevant ETQA.

Anyone wishing to be assessed against this Qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

Notes to Assessors

Assessors should keep the following principles in mind when designing and conducting assessments against this qualification:

- Focus the assessment activities on gathering evidence in terms of the main outcome expressed in the title to ensure assessment is integrated rather than fragmented. Remember we want to declare the person competent in terms of the title. Where assessment at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes.
- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the learner is able to perform in the real situation.
- Do not focus the assessment activities on each assessment criterion. Rather make sure

the assessment activities focus on outcomes and are sufficient to enable evidence to be gathered around all the assessment criteria.

- The assessment criteria provide the specifications against which assessment judgements should be made. In most cases, knowledge can be inferred from the quality of the performances, but in other cases, knowledge and understanding will have to be tested through questioning. Where this is required, there will be assessment criteria to specify the standard required.
- The task of the assessor is to gather sufficient evidence, of the prescribed type and quality, as specified in this qualification, that the learner can achieve the outcomes repeatedly. This means assessors will have to judge how many repeat performances are required before they believe the performance is reproducible.

All assessments should be conducted in line with the following well documented principles of assessment: appropriateness, fairness, manageability, integration into work or learning, validity, direct, authentic, sufficient, systematic, open and consistent

Component	Level 3			Level 4		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Fundamental				1. Engage in sustained oral communication and evaluate spoken texts (8974)	4	5
				2. Read, analyse and respond to a variety of texts (8975)	4	5
				3. Write for a wide range of contexts (8976)	4	5
				4. Use language and communication in occupational learning programmes (8979)	4	5
	5 Accommodate audience and context needs in oral communication (8968)	3	5			
	6 Interpret and use information from texts (8969)	3	5			
	7 Write texts for a range of communicative contexts (8970)	3	5			
	8 Use language and communication in occupational learning programmes (8973)	3	5			
				9 Use mathematics to investigate and monitor the financial aspects of personal, business, and national issues (9014)	4	6
				10 Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on liferelated problems (9015)	4	6
				11 Represent, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts (9016)	4	4
Total Fundamental		3	20		4	36

Component	Level 3			Level 4		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Core				12 Control stock at point of sale (New)	4	15
	13 Capture, process and analyse transactions (New)	3	15			
				14 Control cash at point sale (New)	4	10
				15 Instil in myself a personal marketing culture (10021)	4	4
				16 Carry out marketing administration within agreed parameters. (10039)	4	10
				17 Perform general frontline service duties (New)	2	5
				18 Perform mail-related activities in frontline service environment (New)	4	5
				19 Selling goods and services (8284)	4	16
				20 Conduct a self-evaluation of own progress and development (110057)	4	2
Core Total		3	15		4	67

Component	Level 3			Level 4		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
<i>Elective</i>	16 Demonstrate basic knowledge of computers (9532)	3	6			
	17 Produce a word processing document for business (7570)	3	5			
	18 Produce a use spreadsheets for business (7567)	3	5			
	19 Produce presentation documents for business (7575)	3	5			
				20 Apply a range of project management tools (10140)	4	8
				21 Analyse the skills development legislation and apply it in the workplace (14551)	4	4
				22 Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (13950)	4	8
Elective Total		3	21		4	20
Overall Total		3	56		4	118

Qualification	Fundamental	56
	Core	82
	Elective	10
Total		148

Unit Standards: Further Education and Training Certificate in Frontline Service (NQF Level 4)

Unit Standards at NQF Level 4

Title: Control stock at a point of sale

Title: Control cash at a point of sale

Title: Capture, process and analyse frontline transactions

Title: Perform general frontline service duties

Title: Perform mail related activities in frontline service environment

Unit Standards and Specific Outcomes: Further Education and Training Certificate in Frontline Service (NQF Level 4)

1 Control stock at a point of sale

Specific Outcome 1: Replenish stock at point of sale

Specific Outcome 2: Transfer stock to specified destination

Specific Outcome 3: Return stock to suppliers

Specific Outcome 4: Count stock to facilitate stock control

Specific Outcome 5: Safeguard stock at point of sale

2 Control cash at a point of sale

Specific Outcome 1: Maintain cash float at point of sale

Specific Outcome 2: Transfer excess cash to relevant authority

Specific Outcome 3: Accept payments at point of sale

Specific Outcome 4: Transact payments at point of sale

Specific Outcome 5: Balance cash at end of trade period

3 Capture, process and analyse frontline transactions

Specific Outcome 1: Process transaction in frontline

Specific Outcome 2: Accept applications for services routinely offered by frontline

Specific Outcome 3: Capture transactions of a frontline trade period

Specific Outcome 4: Analyse processed information for a specified period

Specific Outcome 5: Balance transactions at the end of a trade period

4 Perform general frontline service duties

Specific Outcome 1: Deal with correspondence in frontline

Specific Outcome 2: Complete documentation for the workplace

Specific Outcome 3: Compile statistical reports for internal distribution

Specific Outcome 4: Participate in meeting for frontline operations

Specific Outcome 5: Prepare point of sale workstation for frontline

5 Perform mail related activities in frontline service environment

Specific Outcome 1: Accept postal articles for processing

Specific Outcome 2: Deliver postal articles to customers

Specific Outcome 3: Receive mail internally

Specific Outcome 4: Despatch postal articles for further processing

Specific Outcome 5: Compile mail balance for verification

CONTROL STOCK AT A POINT OF SALE

Unit Standard NLRD Number:
NQF Level: 4

Credits: 15

Field: NSB11: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

Competence in this unit standard will enable the learner to control stock and maintain stock levels at a point of sale, to meet customer requirements.

The unit standard will contribute to the development of any learner within the Postal Industry by providing recognition, further mobility and transportability within the field. The competencies acquired are also generic, making them valuable across various industries. It contributes to the competence of those learners who want to pursue a career in the Postal Industry specifically, and various other industries in general, leading to greater levels of productivity and service quality in the sectors.

The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within industry.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 3
- Mathematics, NQF Level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Replenish stock at point of sale	1.1 Stock needs are identified according to history of stock movement 1.2 Requisitions are submitted to suppliers according to organisation's policies and procedures 1.3 Stock received from supplier is accurately counted, verified and documented in appropriate system 1.4 Stock received is stored according to security protocol 1.5 Stock is accurately acknowledged and accounted for according to security protocol
2. Transfer stock to specified destination	2.1 Stock to be transferred is identified and documented in appropriate system 2.2 Stock to be transferred is appropriately packed in line with

	<p>standard operating procedures</p> <p>2.3 Transferred stock is accounted for according to security protocol</p> <p>2.4 Transferred stock is disposed of where relevant according to company policies and procedures</p> <p>2.5 Acknowledgement of transferred stock is confirmed and documented in appropriate system</p>
3. Return Stock to suppliers	<p>3.1 Stock to be returned to supplier is identified and documented in appropriate system</p> <p>3.2 Stock returned is recorded and accounted for in appropriate system</p> <p>3.3 Returned stock is appropriately packed in line with standard operating procedures</p> <p>3.4 Transferred stock is disposed of where relevant according to company policies and procedures</p> <p>3.5 Acknowledgement of stock is confirmed and documented in appropriate system</p>
4. Count stock to facilitate stock control	<p>4.1 Stock on hand is counted against stock reports at set intervals</p> <p>4.2 Counted stock is verified against stock reports</p> <p>4.3 Counted stock is recorded</p> <p>4.4 Discrepancies are reported and accounted for</p>
5. Safeguard stock at point of sale	<p>5.1 Stock at point of sale is displayed according to safety standards</p> <p>5.2 Stock is stored over night according to safety standards</p> <p>5.3 Stock loss risks are identified and documented in appropriate system</p> <p>5.4 Precautionary measures, to minimise loss of stock, is implemented according to safety standards</p>

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Range may include but not limited to, stock characteristics including stock types, price, weight, expiry date, bar code, number of units.

Stock may include but not limited to high-value merchandise such as cellular phone packs, postal orders, money orders, donation coupons, postage stamps, revenue stamps, philatelic items EasyPost merchandise, stationary, consumable stock and receipt books

Packing may include but not limited to containers, trays, trolleys, cages and boxes, bubble wrap, wrapping, brown paper and twine.

Safeguarding may include but not limited to safes, strong rooms, drawers and lockers

Notes:***Critical cross-field outcomes***

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	3	All
Work effectively with others	2; 3	2.5; 3.5
Employ self management	5	All
Manage information	All	All
Communicate effectively	2; 3	2.5; 3.5
Demonstrate scientific and technological competence	1; 2; 3; 5	1.3; 2.1; 2.5; 3.2; 3.5; 5.3
Understand contextual world systems	All	All

Essential embedded knowledge

Company systems, procedures and policies, vision, mission, operational plan

Point of sale procedures, Stock control

Legislation with regard to ECT Act and PFMA

CONTROL CASH AT A POINT OF SALE**Unit Standard NLRD Number:****NQF Level:** 4**Credits:** 15**Field:** NSB 11: Services**Sub-field:** Consumer Services**Issue Date:****Review Date:****Purpose:**

Competence in this unit standard will enable the learner to control cash and maintain cash levels at a point of sale to meet customer requirements.

The unit standard will contribute to the development of any learner within the Postal Industry by providing recognition, further mobility and transportability within the field. The competencies acquired are also generic, making them valuable across various industries. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, and various other industries in general, leading to greater levels of productivity and quality in the sectors.

The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within industry.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 3
- Mathematics, NQF Level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Maintain cash float at point of sale	1.1 Cash denominations are replenished according to organisation's standard operation procedure 1.2 Cash received is counted accurately 1.3 Cash received is verified against documentation 1.4 Cash received is acknowledged and accounted for using relevant systems 1.5 Cash is stored and safe-guarded according to security protocol
2. Transfer excess cash to relevant authority	2.1 Excess cash and vouchers are determined accurately 2.2 Excess cash documentation is completed using relevant systems

	2.3 Cash is transferred to the relevant authority or bank according to security protocol 2.4 Transaction is recorded and accounted for in relevant systems
3. Accept payments at point of sale	3.1 Transactions are completed accurately 3.2 Payments are received, counted and verified, accurately 3.3 Payments are recorded and accounted for in relevant systems 3.4 Payments are safeguarded and stored according to security protocol
4. Transact payments at point of sale	4.1 Transactions are completed accurately 4.2 Payment amount and method is determined accurately 4.3 Payment is counted or verified accurately 4.4 Payment is accounted and recorded in relevant systems
5. Balance cash at end of trade period	5.1 Excess cash and vouchers are transferred according to security protocol 5.2 Cash and vouchers on hand are counted, recorded and accounted for, accurately and in relevant systems 5.3 Supporting documentation is verified for accuracy 5.4 Discrepancies are identified, investigated and reported to the relevant authorities

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Payments may include, but not limited to cash, cheques, credit cards, debit cards, postal orders, money orders, smart cards, coupons, vouchers

Documentation may include, but not limited to refund vouchers, cash books, banking slips, cash transfer slips, cheque lists, deposit slips

Safeguarding may include but not limited to safes, strong rooms, drawers and lockers

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	5	All
Work effectively with others	3; 4	All
Employ self management	All	All
Manage information	5	All
Communicate effectively	3; 4	All
Demonstrate scientific and technological competence	All	1.4; 2.2; 3.3; 4.4; 5.3
Understand contextual world systems	All	All

Essential embedded knowledge

Company systems, procedures and policies

Safeguarding of cash

Accounting procedures

Acceptance procedures

Legislation with regard to ECT Act and PFMA

Company vision, mission and operational objectives

CAPTURE, PROCESS AND ANALYSE FRONTLINE TRANSACTIONS

Unit Standard NLRD Number:
NQF Level: 4

Credits: 15

Field: NSB 11: Services

Sub-field: Consumer Services

Issue Date:
Review Date:
Purpose:

This unit standard provides the competence to process, capture and analyse transactions, as done at a point of sale in a frontline service environment. It will enable the person to render professional and effective services to customers.

The unit standard will contribute to the development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The competencies acquired are also generic, making them valuable across various industries. It contributes to the competence of those learners who want to pursue a career in the postal industry specifically, and various other industries in general, leading to greater levels of productivity and quality in the sectors.

The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within industry.

Learning assumed to be in place:

The following competencies are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF Level 3
- Mathematics, NQF Level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Process transaction in frontline service	1.1 Customer needs are identified through effective communication 1.2 Desired transaction is performed according to standard operating procedures 1.3 Authorisation is obtained where required, according to organisation's policies and procedures 1.4 Transaction is accounted according to standard operating procedures 1.5 Payment is accepted or provided for the transaction accurately

	1.6	Transaction documentation is disposed of according to organisation's policies and procedures
2. Accept applications for services routinely offered by frontline service	2.1	Application documentation for new services are accepted from customers according to standard operating procedures
	2.2	Application forms are verified correctly
	2.3	Customer is informed about the service or product through effective communication
	2.4	Applications are processed and account for accurately
	2.5	Application documentation is disposed of according to organisation's policies and procedures
	2.6	Customers are notified of outcome of application, if applicable, through effective communication
3. Capture transactions of a frontline trade period	3.1	Information documentation to be captured is obtained according to standard operating procedures
	3.2	Information is verified against records accurately
	3.3	Information is captured or recorded on appropriate system or documentation
	3.4	Transaction documentation is disposed of according to organisation's policies and procedures
4. Analyse processed information for a specified period	4.1	Discrepancies in processed information are detected according to security protocol
	4.2	Reasons for discrepancies are investigated by problem solving strategies
	4.3	Capture errors are rectified according to standard operating procedures
	4.4	Discrepancies are reported to the relevant authorities
5. Balance transactions at the end of a trade period	5.1	Processed transactions are verified correctly
	5.2	Transactions are accounted according to standard operating procedures and security protocol
	5.3	Discrepancies are detected and rectified according to security protocol
	5.4	Transaction documentation is disposed of according to organisation's policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Transactions may include but not limited to Telkom, SABC, telegrams, post boxes, private bags, miscellaneous payments, third party payments, pension payments, banking transactions, stamps, revenue stamps, donation coupons, easypost products

Applications may include but not limited to post box rentals, private bag rentals, cellular phone rentals, business reply service, telephone services, freepost

Accounting of services and transactions may include but not limited to tariff lists, receipt books, balance sheets, statements, record books, batch headers, office records, financial point of sale system, daily cash books, calculators

Authorisation may include but not limited to, bank book, account particulars, withdrawal slip, bank

card, pension vouchers maximum amounts

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	4	4.2
Work effectively with others	1; 2	All
Employ self management	All	All
Manage information	All	All
Communicate effectively	1; 2	All
Demonstrate scientific and technological competence	3; 4; 5	3.3; 4.3; 5.3
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

Company specific policies, procedures and systems

Company vision, mission and operational objectives

Legislations with regard to PFMA and ECT Act

PERFORM GENERAL FRONTLINE SERVICE DUTIES**Unit Standard NLRD Number:****NQF Level:** 4**Credits:** 5**Field:** NSB 11: Services**Sub-field:** Consumer Services**Issue Date:****Review Date:****Purpose:**

This unit standard is intended for persons working in, or planning entry into, the Postal Industry, but has a generic component too, in that it provides a fundamental competence to conduct workplace administration and communication. A person credited with this unit standard will be able to compile written and verbal communication in the frontline context. This unit standard will contribute to the full development of any learner within the Postal Industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the Postal Industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 3
- Mathematical literacy, NQF level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Deal with correspondence in frontline service environment	1.1 Workplace and customer correspondence is acknowledged, timeously 1.2 Workplace and customer correspondence is responded to according to organisation's policies and procedures 1.3 Actions required by correspondence are completed within set timeframes 1.4 Correspondence is disposed of according to organisation's policies and procedures
2. Complete documentation for the workplace	2.1 Information required to complete workplace documentation is collected from relevant sources 2.2 Information to be recorded is organised and arranged so as to structure the elements 2.3 Information is recorded on workplace documentation,

	2.4	accurately Documentation is disposed of according to workplace procedures
3. Compile statistical reports for internal distribution	3.1	Information to be recorded is collected according to standard operating procedures
	3.2	Information is verified according to quality standards
	3.3	Statistical and historical information is recorded from existing documentation
	3.4	Reports are disposed of according to workplace procedures
4. Participate in meeting for frontline operations	4.1	Performance exceptions are reviewed according to organisation's policies and procedures
	4.2	Corrective actions are implemented where necessary according to organisation's policies and procedures
	4.3	Daily point of sale activities are planned according to operational plans
	4.4	Action plans are implemented according to operational plans
5. Prepare point of sale workstation for frontline service	5.1	Workstation is rendered presentable according to quality frontline standards
	5.2	Workstation is prepared according to standard operating procedures
	5.3	Workstation is checked for functionality according to standard operating procedures
	5.4	Required equipment is set out according to standard operating procedures
	5.5	Access to financial systems, where necessary, is obtained according to standard security procedures
	5.6	Workstation equipment, cash and stock is secured according to standard security procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Correspondence may include but not limited to memo's, faxes, flash faxes, circulars, take-notes, electronic mail, directives, instructions

Documentation may include but not limited to attendance registers, record books, clock cards, leave forms, application and registration forms, claim forms

Statistical information may include but not limited to balance sheets, balance books, reports, work sheets office records

Equipment may include but not limited to date stamps, safes, tills, counter equipment, stationary

Notes:***Critical cross-field outcomes***

Credited learners have attained the generic ability to:

<i>Critical cross-field outcome</i>	<i>Specific Outcome</i>	<i>Assessment Criteria</i>
Solve problems	4	4.3
Work effectively with others	4	4.1; 4.2
Employ self management	5	All
Manage information	1; 2; 3	All
Communicate effectively	1; 2; 3	All
Demonstrate scientific and technological competence	5	4.4
Understand Contextual world-systems	5	All

Essential embedded knowledge

Credited learners understand and can explain:

Organisational specific policies, procedures and systems

Organisational vision, mission and operational objectives

PERFORM MAIL RELATED ACTIVITIES IN FRONTLINE SERVICE ENVIRONMENT**Unit Standard NLRD Number:****NQF Level:** 4**Credits:** 5**Field:** NSB 11: Services**Sub-field:** Consumer Services**Issue Date:****Review Date:****Purpose:**

This unit standard is intended for persons working in, or planning entry into, the Postal Industry. It provides the competence to handle postal articles in a frontline service environment. This unit standard will contribute to the full development of any learner within the Postal Industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following competencies and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 3
- Mathematical literacy, NQF level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Accept postal articles for processing	1.1 Postal articles are checked against the prescribed specifications 1.2 Service costs are calculated accurately and accounted for 1.3 Transaction is recorded according to organisation's policies and procedures 1.4 Transaction is concluded according to customer needs 1.5 Postal article is stored for dispatch, safely
2. Process delivery of postal articles to customers	2.1 Notification is received from customer according to organisation's policies and procedures 2.2 Notification details are compared with particulars on postal article for accuracy 2.3 Customer is identified according to identification procedures 2.4 Article is delivered to customer according to delivery procedures 2.5 Transaction is recorded on relevant system/s and accounted for

	2.6	Irregularities are reported / escalated according to organisation's policies and procedures
3. Receive mail internally	3.1	Consignment is acknowledged and checked against consignment note accurately, and using relevant systems
	3.2	Postal articles received are verified against consignment note for accuracy
	3.3	Notifications for collection are issued and mailed according to organisation's procedures
	3.4	Information of postal articles received is recorded and accounted for according to organisation's procedures
	3.5	Postal articles is stored and processed until delivery, safely
	3.6	Duplicate and final notifications are issued according to organisation's procedures
	3.7	Discrepancies are investigated and escalated according to operational procedures
4. Despatch postal articles for further processing	4.1	Postal articles are collected for despatch according to organisation's procedures
	4.2	Postal articles received are verified, counted and recorded, accurately
	4.3	Consignment documentation is prepared on relevant system/s
	4.4	Consignment is prepared and packed according to organisation's procedures
	4.5	Consignment is disposed of according to organisation's procedures
	4.6	Discrepancies are investigated and escalated according to operational procedures
5. Compile mail balance for verification	5.1	Information of postal articles and consignments received is recorded on relevant system/s
	5.2	Information of postal articles and consignments dispatched is recorded on relevant system/s
	5.3	Totals are tallied and balance compiled, accurately
	5.4	Discrepancies are reported and escalated according to organisation's procedures
	5.5	Documentation is filed, correctly and safely

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Postal articles may include, but is not limited to, domestic postal articles, international postal articles, Secure Mail, Speed Services, Recorded articles, non-recorded articles, standardised articles, non-standardised articles, bulk mail, business reply service, parcels, ordinary parcels, courier articles, international parcels, fast mail articles, printed matter, pamphlets, missorts, re-directions

Equipment may include presses, tables, trays, containers, mail bags, sorting equipment, consignment notes, mail documentation, mail bags, pliers, waybills, letter bills, parcel bills, twine, scissors

Delivery may include but not limited to hand to hand delivery, vehicle delivery, delivery by foot, home delivery, post box delivery, private bag delivery, bicycle delivery, walk extensions,

Irregularities may include but not limited to incidents, accidents, customer complaints

Notes:**Critical cross-field outcomes**

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	2; 3; 4; 5	2.6; 3.7; 4.6; 5.4
Work effectively with others	2; 4	2.1; 4.1
Employ self management	All	All
Manage information	All	All
Communicate effectively	2; 4	2.1; 4.1
Demonstrate scientific and technological competence	3; 5	3.1; 5.1; 5.2
Understand Contextual world-systems	All	All

Essential embedded knowledge

Company specific procedures and policies

Postal regulations and legislation

Credited learners understand and can explain:

Company specific policies, procedures and systems

Company vision, mission and operational objectives

Postal Legislation

Dispatch procedures

Relevant equipment

TITLE: Apply analytical fault finding techniques

UNIT STANDARD ID:

LEVEL: 4

CREDITS: 3

FIELD: Manufacturing, Engineering and Technology

SUB-FIELD: Engineering and related design

ISSUE DATE

REVIEW DATE

PURPOSE OF THE UNIT STANDARD:

Learners credited with this Unit Standard are able to understand the basics concepts how to analyse faults

A person credited with this unit standard will be able to:

- Able to identify faults in a generic environment
- Able to describe faults
- Able to analyze faults
- Able to find solutions to a problem so that they do not recur.

This unit standard will contribute to the full development of any learner within the Telecommunications Industry and more specifically in the Installation medium discipline by providing recognition, further mobility and transportability within the field.

LEARNING ASSUMED TO BE IN PLACE:

The following knowledge, skills, attitude and/or equivalent on level 2:

- Communication and Language.
- Be able to work in groups and have a questioning skills

RANGE STATEMENTS:

- The typical scope of this unit standard includes but is not limited to:
 - Case studies
 - Practical assignments
 - Electronic and Electrical problem solving

- The context of this unit standard is performed within structures where stationery, support structure, electronics media, employer's policies and procedures, cultural ethics, business ethics, work environment, professional conduct, test instrumentation, tools, human resources, customer, material, equipment, quality standards, SABS standards, and anti-static procedures are applicable.

Level (for level 4)

A learning programme leading to the award of this unit standard should develop learners who demonstrate:

- (a) An understanding of the discipline/field's fundamental rules, concepts and principles
- (b) Familiarity with the essential procedures, operations and techniques of this field
- (c) An ability to use a range of procedures to solve routine problems
- (d) An ability to communicate and present information clearly and reliably following prescribed formats and conventions

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA**Specific outcome 1:****Objective of trouble shooting****Assessment criteria:**

- 1.1 Analyze a complex situation
- 1.2 List the problems
- 1.3 Separate the problems
- 1.4 Prioritize the problems
- 1.5 Define an action plan

Specific outcome 2:**Able to priorities generic faults from least importance to high priority.****Assessment criteria:**

- 2.1 Define the problems/faults that needs to be repaired first
- 2.2 Use of documentation
- 2.3. Define the cause of the problem
- 2.4. Repair the problem/fault

Specific outcome 3:**Able find a solution to prevent future faults from reoccurring****Assessment criteria:**

- 3.1 Effective use of equipment
- 3.2. Ensure that the problem/fault will not reoccur
- 3.3. Ensure proper completion of work carried out

ACCREDITATION AND MODERATION OPTIONS:

1. Anyone assessing a learner against this unit standard, must be registered as an assessor with the relevant ETQA
2. Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant SETA/ETQA
3. Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures

NOTES:**1. CRITICAL CROSS-FIELD OUTCOMES:**

The following critical cross-field outcomes are addressed in this unit standard:

- 1.1 Understand the basic concepts used in different manufacturers in electronic .
- 1.2 Able to design specific controllers with added hardware.
- 1.3 Organize oneself and one's activities so that all requirements are met in achieving competence in the workplace.
- 1.4 Identify and solve problems related to the scenario at hand
- 1.5 Work effectively with others as a member of a team.
- 1.6 Communicate effectively and using the correct jargon in the repairs environment
- 1.7 Being culturally sensitive across a range of social contexts when consulting engineers and customers.

2. ESSENTIAL EMBEDDED KNOWLEDGE:**2.1 Names, functions, locations of physical things, process, concepts**

- Understanding of subject matter
- Use of tools
- Use of equipment
- Use of manuals

SUPPLEMENTARY INFORMATION:**1. Assessment methods:**

Integrated assessment methods and tools will allow the candidate to demonstrate that she/ he has acquired knowledge of and can safely and effectively apply competence identified in this unit standard.

These tools may include the following:

- In-situ (on-the-job) observations
- Role-play simulations
- Structured group discussions
- Written reports (e.g. tests, exams, case studies, projects, registers, logbooks, workbooks)
- Verbal report backs (presentations)
- Portfolios of evidence
- Projects
- Experiential learning
- Working in teams
- Scenario sketching

These methods must be carefully selected based on the purpose of the assessment (For example, the written method of assessing knowledge or on-job demonstration of practical competence). The assessment must integrate a number of different methods in order to give the assessor reliable and valid proof of competence and evidence of required attitudes.

3. Notes to Assessors

Assessors should keep the following general principles in mind when designing and conducting assessments against this unit standard:

- Focus the assessment activities on gathering evidence in terms of the main outcome expressed in the title to ensure assessment is integrated rather than fragmented. Remember we want to declare the person competent in terms of the title. Where assessment at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes.

- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the candidate is able to perform in the real situation.
- Do not focus the assessment activities on each assessment criterion. Ensure that the assessment activities focus on outcomes and are sufficient to enable evidence to be gathered around all the assessment criteria.
- The assessment criteria provide the specifications against which assessment judgements should be made. In most cases, knowledge can be inferred from the quality of the performances, but in other cases, knowledge and understanding will have to be tested through questioning techniques. Where this is required, there will be assessment criteria to specify the standard required.
- The task of the assessor is to gather sufficient evidence, of the prescribed type and quality, as specified in this unit standard, that the candidate can achieve the outcomes again and again and again. This means assessors will have to judge how many repeat performances are required before they believe the performance is reproducible.
- All assessments should be conducted in line with the following well documented principles of assessment: appropriateness, fairness, manageability, integration into work or learning, validity, direct, authentic, sufficient, systematic, open and consistent

National Certificate: Mail Handling (NQF Level 3)

Field:	Services
Sub-field:	Consumer Services
Level:	3
Total credits:	131

Rationale

This qualification is designed to meet the workplace-based needs of the Postal Industry that relates to the handling and processing of mail, as expressed by employers and employees. The qualification equips the learner with competencies that will enhance accessibility to employment in the Postal Industry, as well as with generic competencies that are valuable across industries. Learners who qualify will be able to improve their earning ability, by obtaining professional competence. Competencies acquired are primarily aimed at optimising the service delivery, profitability and image of organisations within the Postal Industry.

Purpose of the qualification

This qualification is aimed at creating a competent workforce in the Postal Industry that will enable the industry to meet current and future needs. It will allow learners within the industry to obtain a nationally recognised qualification in handling mail as well as obtaining generic competencies. It will also set a standard to create and ensure quality delivery of all mail products in the Postal Industry as well as contribute to the growth and customer satisfaction within the industry.

Learning assumed to be in place

It is assumed that learners embarking on learning towards this qualification are already competent in the areas of communication, mathematics and computer literacy at NQF level 2 in the Further Education and Training Band, and Life Skills at NQF level 2. These competencies are required in order to process and record mail, and in order for workers to conduct themselves professionally.

b) Rules of combination

This qualification is designed as follows:

Compulsory	All Fundamental Unit Standards
	All Core Unit Standards
	Career Identify possible ways of improving employment prospects (3 Credits) Perform general frontline service duties (5 Credits)
	IT Demonstrate basic knowledge of computers (6 Credits) Demonstrate the ability to use the world wide web (3 Credits) Produce a word processing document for business (5 Credits)
	Supervisory Describe the management functions in an organisation.(6 Credits) Demonstrate understanding of employment relations in an organisation (3 Credits) Identify and keep records that are the responsibility of a junior manager (4 Credits)
Optional: at least 8 credits, from Elective Unit Standards, in the following "modules"	

Qualification	Fundamental	42
	Core	81
	Electives	8
Total		131

c) Exit level outcomes and associated assessment criteria

On achieving this qualification, a learner is able to:

FUNDAMENTAL

1. Communicate, and interpret communication, (orally and in writing) in a given context

Assessment Criteria: Communication that is appropriate to the purpose and context of meetings, debates, negotiations etc is entered into

A range of strategies to understand the literal and implicit meanings of specific texts is used and appropriate responses are undertaken

Writing for a specified audience and purpose is completed according to organizational standards

2. Use mathematics to solve problems in work and personal contexts

Assessment Criteria: Mathematics is employed to investigate and interpret business budgets with respect to income and expenditure

Mathematics is used to debate aspects of remuneration in the workplace

Numbers are employed in different ways to express size and magnitude

3. Control financial and non- financial risks in personal life

Assessment Criteria: The risk associated with not managing and reconciling bank statements promptly, is indicated for own situation

The risk involved if creditors' statements are not checked and reconciled promptly is explained using examples

The implications of risk are identified in a given situation

CORE

4. Sort and process mail items

Assessment Criteria: Mail items are accurately and efficiently sorted and in line with standard norms

Parcels are accurately and efficiently processed and in line with standard norms

Sorted mail items are checked according to quality standards

5. Deliver mail to required destinations

Assessment Criteria: Mail is accurately and ethically delivered accurately and in line with standard procedures

Misrouted mail items are appropriately dealt with

Professional conduct procedures related to the reporting of transgressions and irregularities are adhered to

Quality standards are adhered to

6. Record mail information

Assessment Criteria: A document/system is appropriately selected for particular capturing tasks

Information is recorded correctly and completely

Professional conduct procedures related to ethical recording is adhered to

7. Comply with the Occupational Health and Safety legislation

Assessment Criteria: Postal equipment is utilised as per health and safety prescriptions

Behaviour at work is congruent with safety legislation and organisation's policies and procedures

ELECTIVE (8 Credits)

8. Pursue career alternatives within the Postal Services

*Assessment Criteria: Career management and/or personal expenditure and/or risk is managed
Frontline service duties are efficiently and effectively performed*

9. Perform basic IT activities

*Assessment Criteria: Various IT components are identified, which are relevant to the workplace
IT applications are used to add value to daily work activities*

10. Perform junior management activities

*Assessment Criteria: Basic management activities are identified and performed
Organisational policies related to employment are adhered to, or,
Aspects of individual and team performance are recorded, accurately*

International comparability

The qualification was benchmarked against criteria from New Zealand, Royal Mail and Canada Post.

Various international Qualifications Authorities were researched to establish the international alignment of this qualification. These Authorities include:

- Qualifications Curriculum and Assessment Authority for Wales
- National Skills Standards Board Institute, USA
- Australian Qualifications Framework
- Scottish Qualifications Authority
- New Zealand Qualifications Authority
- National Qualifications Authority of Ireland
- Northern Ireland Council for the Curriculum, Examinations and Assessment

The Qualifications and Curriculum Authority, UK, showed close overlap with this qualification. This authority has 2 similar, registered, qualifications:

Title: Mail Operations

Level: 2-Intermediate

Candidates must complete a total of 6 units for the qualifications:

Three mandatory units from Group A:

- Contribute to the Maintenance of Health and Safety in the Workplace
- Contribute to the Security of the Workplace
- Identify and Support Improvements to Customer Service and Business Operations

Group B - One Optional Units

- Separate Mail for Processing
- Sort Mail Manually
- Sort Mail Through Automated Processing Systems
- Deliver Mail to Domestic and Business Customers

Group C - Two Optional Units

- Contribute to Effective Working Relationships
- Meet Customers' Needs for Information and Advice
- Contribute to the Maintenance and Security of Vehicles

- Process Orders using Automated Assembly Systems
- Collect and Transport Mail for Processing
- Contribute to Maintaining the Effectiveness of Mail Processing Machinery

Group D – Optional Additional Units:
Various language Units

The present qualification aligns well with the UK qualifications' compulsory Group A units, and the operational Group B and Group C units.

Integrated assessment

Learners are expected to demonstrate competence in a way that integrates all outcomes, showing their ability to integrate concepts, ideas and actions across unit standards, in order to achieve competence that is grounded and coherent in relation to the purpose and exit level outcomes of the qualification. Assessors should make use of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies.

Integrated assessment must assess the quality of the observable performance, as well as the quality of thinking that lies behind it. Assessment tools must thus encourage learners to explain the thinking and decision-making that underpin their performance. Assessment criteria in the unit standards are performance-based (applied competence as opposed to required knowledge only). Workplace experience may be recognised when awarding credits towards this qualification.

A broad range of task-orientated and theoretical assessment tools may be used, and the distinction between practical knowledge and disciplinary knowledge must be maintained.

Recognition of prior learning (RPL)

This qualification can be achieved, in whole or in part, through the recognition of prior learning. Recognition of prior learning will include formal, informal and non-formal learning and workplace experience, in terms of the criteria laid out.

Any learner wishing to be directly assessed may arrange to do so, without participating in further training or education.

Articulation possibilities

This qualification provides the learner with the flexibility to pursue different careers in the Postal Industry:

Vertically to: FET Certificate in Mail Supervision (NQF Level 4) and,

Further Education and Training Certificate in Postal Frontline Service (NQF Level 4).

Horizontally to: National Certificate: Business Administration Services (NQF Level 3).

- The level of flexibility within the range of electives will allow the individual to pursue further learning within an entrepreneurship, supervision/management, quality assurance and health and safety sub-disciplines, both vertically and horizontally.

Moderation options

Moderation includes both internal and external moderation of assessments at exit points of the qualification and encompasses achievement of the competence described both in unit standards as well as the integrated competence described in the qualification.

Assessment of learner achievements take place at ETQA accredited providers for the provision of programmes that result in the outcomes specified for the National Certificate in Mail Handling, NQF level 3. These providers are responsible for the moderation of learner achievements of learners who meet the requirements of each unit standard. Those assessing the outcomes of this qualification should be qualified and registered with the ETQA.

Each Unit Standard will be externally moderated by a moderator registered with the relevant ETQA.

Anyone wishing to be assessed against this Qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

Notes to Assessors

Assessors should keep the following principles in mind when designing and conducting assessments against this qualification:

- Focus the assessment activities on gathering evidence in terms of the main outcome expressed in the title to ensure assessment is integrated rather than fragmented. Remember we want to declare the person competent in terms of the title. Where assessment at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes.
- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the learner is able to perform in the real situation.
- Do not focus the assessment activities on each assessment criterion. Rather make sure the assessment activities focus on outcomes and are sufficient to enable evidence to be gathered around all the assessment criteria.
- The assessment criteria provide the specifications against which assessment judgements should be made. In most cases, knowledge can be inferred from the quality of the performances, but in other cases, knowledge and understanding will have to be tested through questioning techniques. Where this is required, there will be assessment criteria to specify the standard required.
- The task of the assessor is to gather sufficient evidence, of the prescribed type and quality, as specified in this unit standard, that the learner can achieve the outcomes again and again and again. This means assessors will have to judge how many repeat performances are required before they believe the performance is reproducible.

All assessments should be conducted in line with the following well documented principles of assessment: appropriateness, fairness, manageability, integration into work or learning, validity, direct, authentic, sufficient, systematic, open and consistent

Component	Level 2			Level 3			Level 4		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Fundamental				1. Accommodate audience and context needs in oral communication (8968)	3	5			
				2. Interpret and use information from texts (8969)	3	5			
				3. Write texts for a range of communicative contexts (8970)	3	5			
				4. Use language and communication in occupational learning programmes (8973)	3	5			
				5. Demonstrate understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations (90100)	3	2			
				6. Use mathematics to investigate and monitor the financial aspects of personal and business issues (9011)	3	5			
				7. Investigate life and work related problems using data and probabilities.(9012)	3	4			
				8. Collect and use data to establish statistical and probability models and solve related problems. (7454)	3	5			
				18 Manage personal expenditure.(10712)	3	3			
				19 Manage risk in own life (8994)	3	3			
Total Fundamental		2	0		3	42		4	0

Component	Level 2			Level 3			Level 4		
CORE	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
				9. Receive and prepare mail items (New)	3	12			
				10. Process mail items (New)	3	15			
				11. Process mail parcels (New)	3	5			
				12. Operate automated sorting equipment (New)	3	10			
				13. Deliver mail items (New)	3	12			
				14. Record mail information (New)	3	5			
							15. Demonstrate basic understanding of primary labour legislation that impacts on a business unit (13952)	4	8
				16. Demonstrate knowledge and understanding of HIV/AIDS in a workplace, and its effect on a business sub-sector, own organisation and specific workplace (13915)	3	4			
				17. Demonstrate an understanding of a selected business environment (13938).	3	10			
Total Core		2	0		3	73		4	8

Component	Level 2			Level 3			Level 4		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Elective				20 Identify possible ways of improving employment prospects (10713)	3	3			
	21 Perform general frontline service duties (New)	2	5						
				Demonstrate basic knowledge of computers (9532)	3	6			
	22 Demonstrate the ability to use the world wide web (7573)	2	3						
				23 Produce a word processing document for business (7570)	3	5			
				24 Describe the management functions in an organisation.(13913)	3	6			
				25 Demonstrate understanding of employment relations in an organisation (10170)	3	3			
				26 Identify and keep records that are the responsibility of a junior manager (13916)	3	4			
Total Electives		2	8		3	27			
Total		2	8		3	142		4	8

Qualification	Fundamental	42
	Core	81
	Electives	8
Total		131

Unit Standards: National Certificate in Mail Handling (NQF Level 3)**Unit Standards at NQF Level 3**

1. Title: Receive and prepare mail items
2. Title: Process mail items
3. Title: Process mail parcels
4. Title: Operate automated sorting equipment
5. Title: Deliver mail items
6. Title: Record mail information
7. Title: Perform general frontline service duties

New Unit Standards and Specific Outcomes: National Certificate in Mail Handling (NQF Level 3)**Unit Standards at NQF Level 3**

1. Title: Receive and prepare mail items
 - Specific Outcome 1.1 Receive and verify external mail items for further preparation
 - Specific Outcome 1.2 Prepare mail items for further processing
 - Specific Outcome 1.3 Transfer mail items to specified internal locations/sections
 - Specific Outcome 1.4 Check mail items for adherence to quality standards
2. Title: Process mail items
 - Specific Outcome 2.1 Receive and verify internal mail items for further processing
 - Specific Outcome 2.2 Sort mail items for processing
 - Specific Outcome 2.3 Capture postal codes in line with set standards
 - Specific Outcome 2.4 Assure quality of mail items for adherence to quality standards
3. Title: Process mail parcels
 - Specific Outcome 3.1 Receive and verify parcels for further preparation
 - Specific Outcome 3.2 Prepare parcels for processing
 - Specific Outcome 3.3 Process parcels for delivery
 - Specific Outcome 3.4 Check parcels for adherence to quality standards

4. Title: Operate automated sorting equipment
 - Specific Outcome 4.1 Prepare mail items for automated equipment
 - Specific Outcome 4.2 Operate automated equipment safely
 - Specific Outcome 4.3 Conduct non-technical maintenance of automated sorting machines
 - Specific Outcome 4.4 Check mail items for suitability for automated sorting

5. Title: Deliver mail items
 - Specific Outcome 5.1 Receive and verify mail items to prepare for accurate delivery
 - Specific Outcome 5.2 Prepare mail items according to geographical distribution
 - Specific Outcome 5.3 Deliver mail items according to geographical destination
 - Specific Outcome 5.4 Report irregularities to appropriate party
 - Specific Outcome 5.5 Check mail items received at depot

6. Title: Record mail information
 - Specific Outcome 6.1 Select reporting documents and/or systems for mail reporting
 - Specific Outcome 6.2 Record the volumes of postal articles processed for recording purposes
 - Specific Outcome 6.3 Record mail irregularities according to organisation's protocol
 - Specific Outcome 6.4 Forward recorded information to the relevant section/department

7. Title: Perform General frontline service duties
 - Specific Outcome 7.1 Deal with correspondence in frontline
 - Specific Outcome 7.2 Complete documentation for the workplace
 - Specific Outcome 7.3 Compile statistical reports for internal distribution
 - Specific Outcome 7.4 Participate in meeting for frontline operations
 - Specific Outcome 7.5 Prepare point of sale workstation for frontline

UNIT STANDARD TITLE: RECEIVE AND PREPARE MAIL ITEMS

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	12
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the Postal Industry. A person credited with this unit standard will be able to receive and prepare mail items for further processing and utilise equipment according to organisational policies, standard operating procedures and set standards.

This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and Literacy, NQF level 2
- Mathematical literacy, NQF level 2

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Receive and verify external mail items for further preparation	1.1 Mail items received are verified for correctness 1.2 Non-deliverable mail items are identified and appropriately dealt with 1.3 Different mail types are identified, described and appropriately dealt with 1.4 Required postal equipment is identified and utilised within health and safety practices
2. Prepare mail items for further processing	2.1 Mail items are categorised for further processing 2.2 Mail items are prepared according to priority. 2.3 Required postal equipment is identified and utilised as per health and safety requirements 2.4 Mail items are prepared whilst adhering to housekeeping rules

3. Transfer mail items to specified internal locations/sections	3.1	Mail items are prepared according to priority
	3.2	Sorting location is identified according to area selected for distribution
	3.3	Required postal equipment is identified and utilised as per health and safety requirements
	3.4	Mail items are transferred in line with operating schedules and health and safety practices
4. Check mail items for adherence to quality standards	4.1	Mail items are checked according to protocol
	4.2	Mail items are checked for compliance to quality standards
	4.3	Internal sampling and testing of mail items are according to the profession's standards
	4.4	Irregularities are reported according to organisational policies and procedures

Accreditation process and moderation:

Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.

Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.

The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

This unit standard includes the preparing of letters, flats, fastmail, registered mail, packets and missorts/redirected items by using trays, bags, trolleys, sorting tables, roll containers, mini containers.

Notes:

Critical cross-field outcomes

Learners have acquired the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	2	2.1; 2.2; 2.3
Work effectively with others	4	4.4
Employ self management	All	All
Manage information	All	All
Communicate effectively	4	4.4
Demonstrate scientific and technological competence	3	3.3
Understand Contextual world-systems	1	1.1; 1.2; 1.3
	4	All

Essential embedded knowledge

Credited learners understand and can explain:

Relevant names, functions, locations of physical things, processes, concepts Postal equipment
Scanning equipment

Weighing equipment
Organisational policies and procedures
Health and safety regulations
Product knowledge
Process flow
Customer orientation
Scanning of mail items
Distribution matrix related to internal sorting
Distribution network related to the Postal Service
Counting and weighing of mail items

UNIT STANDARD TITLE: PROCESS MAIL ITEMS

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	15
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry. A person credited with this unit standard will be able to sort a variety of mail items manually into given categories and according to organisational policies, standard operating procedures and set standards.

The unit standard will contribute to the full development of any learner within the Postal Service by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication, NQF level 2
- Mathematical literacy, NQF level 2

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Receive and verify internal mail items for further processing	1.1 Mail items received are verified for correctness 1.2 Mail items received are dealt with according to professional conduct procedures 1.3 Non-deliverable mail items are identified and appropriately dealt with, according to organisational policies and procedures 1.4 Different mail types are identified, described and appropriately dealt with according to organisational policies and procedures 1.5 Relevant postal equipment is identified and utilised within health and safety standards
2. Sort mail items for processing	2.1 Sorting destinations are selected for distribution, which are correct and in line with organisational policies and procedures

	2.2	deliverable items are identified in accordance organisational procedures and policies
	2.3	Non-deliverable items are transferred to the relevant processing location
	2.4	Mail is received in a way compliant with Professional conduct procedures
	2.5	Relevant postal equipment is identified and utilised within health and safety standards
3. Capture postal codes in line with set standards	3.1	Postal codes are captured in line with the distribution network
	3.2	Postal codes are captured in volumes (number of postal codes) according to professional standards and operations schedules
	3.3	Relevant computer equipment is identified and utilised according to organisational policies and procedures
	3.4	Postal codes are captured are checked at random
4. Assure quality of mail items for adherence to quality standards	4.1	Mail items are checked according to quality standards
	4.2	Internal mail items are sampled according to quality standards
	4.3	Internal mail items are tested according to quality standards
	4.4	Mail is checked according to professional conduct procedures and health and safety standards

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

This unit standard includes the sorting of letters, flats, fast mail, registered mail, packets and missorts/redirected items by using sorting presses, trays, bags, trolleys, sorting tables, roll containers, mini containers, coding machines.

Notes:

Critical cross-field outcomes

Learners have acquired the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	1	1.2; 1.3; 1.4; 1.5
Work effectively with others	2	2.4
Employ self management	4	All
Manage information	All	All
Communicate effectively	1	1.4
Demonstrate scientific and	2	2.5

technological competence		
Understand Contextual world-systems	1	All
	4	All

Essential embedded knowledge

Credited learners understand and can explain:

1. Names, functions, locations of physical things, process, concepts

- Postal equipment
- Scanning equipment

2. Procedures and techniques

- Organisational policies and procedures related to the purpose of this unit standard
- Health and safety regulations

4. Theory – rules, agreements and principles

- Product knowledge
- Process flow
- Customer orientation
- Scanning of mail items
- Distribution matrix related to internal sorting
- Distribution network related to the Postal Service
- Counting and weighing of mail items

UNIT STANDARD TITLE: PROCESS MAIL PARCELS

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	5
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry. A person credited with this unit standard will be able to process parcels according to given categories and according to organisational policies, standard operating procedures and set standards. This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 2
- Mathematical literacy, NQF level 2
- Internal sorting of mails items (previous Unit Standard)

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Receive and verify parcels for further preparation	1.1 Parcels received are verified for correctness 1.2 Non-deliverable parcels are identified and appropriately dealt with, according to organisational policies and procedures 1.3 Violated parcels are identified and dealt with appropriately, and according to organisational policies and procedures 1.4 Relevant postal equipment is identified and utilised within health and safety standards 1.5 Parcels are received and verified ethically and professionally according to organisational policies and procedures
2. Prepare parcels for processing	2.1 Parcels are prepared according to priority 2.2 Relevant postal equipment is identified according to organisational policies and procedures 2.3 Postal equipment is utilised within health and safety standards

3. Process parcels for delivery	2.4	Parcels are prepared in accordance with operating schedules
	3.1	Parcels are sorted according to correct distribution destinations
	3.2	Parcels are processed according operating schedules
	3.3	Relevant postal equipment is identified according to organisational policies and procedures
	3.4	Relevant postal equipment is utilised within health and safety standards
	3.5	Non-deliverable parcels are identified in accordance organisational procedures and policies
	3.6	Non-deliverable parcels are transferred to the relevant processing location
4. Check parcels for adherence to quality standards	3.7	Violated parcels are identified and dealt with appropriately, according to organisational policies and procedures
	4.1	Parcels are checked according to organisation policies and procedures and operating schedules
	4.2	Parcels are checked according to quality standards
	4.3	Irregularities are reported according to organisational policies and procedures
	4.4	Parcels are checked according to health and safety standards

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

This unit standard includes the processing of parcels, missorts/redirected parcels by using sorting presses, bags, trolleys, roll containers, mini containers.

Notes:

Critical cross-field outcomes

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	1	1.2; 1.3; 1.4; 1.5
Work effectively with others	3	3.6
Employ self management	All	All
Manage information	1	1.2; 1.3; 1.4; 1.5
Communicate effectively	3	3.6
Demonstrate scientific and technological competence	1	1.4
	2	2.3
	3	3.3
Understand Contextual world-systems	1	All
	4	All

Essential embedded knowledge

Credited learners understand and can explain:

1. Names, functions, locations of physical things, process, concepts

- Postal equipment
- Scanning equipment

2. Procedures and techniques

- Organisational policies and procedures related to the purpose of this unit standard
- Track and trace procedures
- Health and safety regulations

3. Theory – rules, agreements and principles

- Professional conduct procedures
- Product knowledge
- Process flow
- Customer orientation
- Scanning of parcels
- Distribution matrix related to internal sorting
- Distribution network related to the Postal Service
- Counting and weighing of parcels

UNIT STANDARD TITLE: OPERATE AUTOMATED SORTING EQUIPMENT

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	10
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry. A person credited with this unit standard will be able to operate automated sorting equipment according to manufacturing requirements and as per health and safety regulations. This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 2

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Prepare mail items for automated equipment	1.1 Mail items are stacked and packed according to manufacturing requirements 1.2 Relevant automated equipment is identified according to organisational policies and procedures 1.3 Relevant automated equipment is prepared according to health and safety standards 1.4 Items are prepared according to housekeeping rules
2. Operate automated equipment safely	2.1 Automated equipment is operated according to health and safety standards 2.2 Automated equipment is utilised in accordance with operating schedules 2.3 Operational irregularities of equipment is identified according to equipment manual 2.4 Operational irregularities of equipment are reported to relevant party

3. Conduct non-technical maintenance of automated sorting machines	3.1 The need for necessary, non-technical maintenance of machines are identified according to equipment manual 3.2 Non-technical maintenance is conducted according to operations manual and within health and safety standards 3.3 The need for technical maintenance is identified according to equipment manual. 3.4 Technical maintenance support is sourced internally or externally to the organisation
4. Check mail items for suitability for automated sorting	4.1 Mail items are checked according to organisation policies and procedures and operating schedules 4.2 Mail items not meeting requirements (thickness, damaged etc) are removed and appropriately handled, according to organisational policies and procedures 4.3 Internal sampling and testing of mail items are performed according to quality standards 4.4 Fault finding reports are described and explained according to organisational policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	3	All
Work effectively with others	3	3.4
Employ self management	All	All
Manage information	3	3.2
Communicate effectively	3	3.4
Demonstrate scientific and technological competence	3	3.2
Understand Contextual world-systems	1	All
	4	All

Essential embedded knowledge

Credited learners understand and can explain:

1. Names, functions, locations of physical things, process, concepts

- Automated sorting equipment

2. Procedures and techniques

- Organisational policies and procedures related to the purpose of this unit standard
- Health and safety regulations

3. Theory – rules, agreements and principles

- Product knowledge
- Process flow
- Distribution matrix related to internal sorting
- Distribution network related to the Postal Service

UNIT STANDARD TITLE: DELIVER MAIL ITEMS

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	15
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry. A person credited with this unit standard will be able to deliver mail items to the correct destination and according to given categories and according to organisational policies, standard operating procedures and set standards. This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 2
- Mathematical literacy, NQF level 2
- Internal sorting of mail items (Postal Services Unit Standard)
- Valid motorbike licence, where motorbike is used for delivery.

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Receive and verify mail items to prepare for accurate delivery	1.1 Mail items received are verified for correctness 1.2 Violated mail items are identified according to organisation's policies and procedures 1.3 Violated mail items are appropriately dealt with according to organisation's policies and procedures 1.4 Misrouted mail items are identified according to organisation's policies and procedures 1.5 Misrouted mail items are appropriately dealt with according to organisation's policies and procedures 1.6 Relevant postal equipment is identified and utilised within health and safety standards
2. Prepare mail items	2.1 Mail items are prepared according to organisation's policies

according to geographical distribution	2.2	and procedures and in line with operating schedules
	2.3	Mail items are categorised according to geographical distribution
	2.4	Relevant postal equipment is identified according to organisation's policies and procedures
	2.4	Postal equipment is prepared according to health and safety procedures
3. Deliver mail items according to geographical destination	3.1	Delivery destinations are verified according to mail items
	3.2	Relevant postal equipment is identified and prepared according to organisation's policies and procedures
	3.3	Postal equipment is utilised according to health and safety procedures
	3.4	Mail items are delivered in line with operating schedules
	3.5	Mail items are delivered in line with professional conduct protocol
4. Report irregularities to appropriate party	4.1	Parties for reporting irregularities to, are identified according to organisation's policies and procedures
	4.2	Parties for reporting irregularities to, are accessed according to organisation's policies and procedures
	4.3	Incidents are reported in line with health and safety protocol
	4.4	Accidents are reported according to organisation's policies and procedures
	4.5	Professional conduct procedures related to the reporting of transgressions and irregularities are adhered to
5. Check mail items received at depot	5.1	Mail items are checked according to organisational quality standards
	5.2	Mail items not meeting requirements are removed and appropriately handled, according to organisational policies and procedures
	5.3	Internal sampling of mail items are performed according to quality standards
	5.4	Testing of mail items is performed according to quality standards
<p>Range: This unit standard includes the receiving and preparing of letters, flats, fastmail, registered mail slips, packets and missorts/redirected items.</p> <p>Mail items can be delivered using the following method:</p> <ol style="list-style-type: none"> 1. By foot; 2. Bicycle; and 3. Motorbike n(proviso: valid motorbike licence) <p>Mail can be delivered at the following destinations:</p> <ol style="list-style-type: none"> 1. Home/street; 2. Post box; 3. Private bag. <p>Irregularities may involve: Walk extension, customer complaints, bicycle or vehicle accidents, injuries.</p> <p>Quality checks include the checking of quality of letters, flats, fastmail, registered mail slips, packets.</p>		

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Notes:**Critical cross-field outcomes**

- Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	1; 3	1.3; 1.5; 3.2
Work effectively with others	4	All
Employ self management	All	All
Manage information	4	All
Communicate effectively	4	All
Demonstrate scientific and technological competence	1; 2	1.6; 2.3; 2.4
Understand Contextual world-systems	1	All
	4	All
	5	All

Essential embedded knowledge

Credited learners understand and can explain:

1. Names, functions, locations of physical things, process, concepts

- Geographical knowledge of the delivery area
- Postal equipment
- Scanning equipment

2. Procedures and techniques

- Legislation, policies and procedures related to the purpose of this unit standard
- Health and safety regulations

3. Theory – rules, agreements and principles

- Product knowledge
- Process flow
- Customer orientation
- Scanning of parcels
- Geographical knowledge related to the Postal Service

UNIT STANDARD TITLE: RECORD MAIL INFORMATION

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	3
Credits:	5
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry. A person credited with this unit standard will be able to Record mail information related to the sorting and delivery of postal articles on relevant documents or systems and according to organisational policies, standard operating procedures and set standards. This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 2
- Mathematical literacy, NQF level 2

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Select documents and/or systems for mail reporting	1.1 Documents/systems related to mail sorting are identified for various purposes 1.2 An appropriate document/system is selected for a particular capturing tasks 1.3 Document/system is obtained from relevant source according to organisation's procedures 1.4 Integrity of obtained document/system is checked according to quality standards
2. Document the volumes of postal articles processed for recording purposes	2.1 Volumes of postal articles processed are recorded ethically and according to organisation's policies and procedures 2.2 Information recorded is correct and accurate according to quality standards 2.3 Information recorded is complete according to organisation's policies and procedures and quality standards 2.4 Captured data is checked for accuracy and completeness

3. Record mail irregularities according to organisation's protocol	3.1 Organisation's protocol with regard to documenting irregularities is determined, to guide behaviour 3.2 Irregularities are identified and acted on according to organisation's policies and procedures 3.3 Mail violations are recorded ethically and according to organisation's policies and procedures 3.4 Missorts/redirected postal articles are recorded according to organisation's policies and procedures
4. Forward recorded information to the relevant section/department	4.1 Relevant department is identified for dispatch of recorded information 4.2 Information is forwarded to appropriate section/department according to organisation's policies and procedures 4.3 Receipt of documentation is verified according to organisation's policies and procedures 4.4 Copies and proof of dispatch of information is filed physically or electronically

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:.

This unit standard includes the recording of information on the following systems/documents: Tick sheets, logbooks, process control books, computerised systems (e.g. Mail centre information system, depot information system)

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	1; 2; 4	1.4; 2.4; 4.3
Work effectively with others	4	4.2
Employ self management	All	All
Manage information	All	All
Communicate effectively	4	4.2
Demonstrate scientific and technological competence	1; 4	1.1; 1.2; 4.4
Understand Contextual world-systems	4	All

Essential embedded knowledge

- Organisational policies and procedures related to the purpose of this unit standard

UNIT STANDARD TITLE: PERFORM GENERAL FRONTLINE SERVICE DUTIES

Unit Standard NLRD Number:	(To be added by SAQA)
NQF Level:	4
Credits:	5
Field:	NSB 11: Services
Sub-field:	Consumer Services
Issue Date:	(To be added by SAQA)
Review Date:	(To be added by SAQA)

Purpose:

This unit standard is intended for persons working in, or planning entry into, the postal industry, but has a generic competency component too, in that it provides a fundamental competence to conduct workplace administration and communication. A person credited with this unit standard will be able to compile written and verbal communication in the frontline context. This unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

The following knowledge, skills, attitude and/or equivalent are assumed for a learner embarking on the unit standard:

- Communication and literacy, NQF level 3
- Mathematical literacy, NQF level 3

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
1. Deal with correspondence in frontline	1.1 Workplace and customer correspondence is acknowledged, timeously 1.2 Workplace and customer correspondence is responded to according to organisation's policies and procedures 1.3 Actions required by correspondence are completed within set timeframes 1.4 Correspondence is disposed of according to organisation's policies and procedures
2. Complete documentation for the workplace	2.1 Information required to complete workplace documentation is collected from relevant sources 2.2 Information to be recorded is organised and arranged so as to structure the elements 2.3 Information is recorded on workplace documentation,

	2.4	accurately Documentation is disposed of according to workplace procedures
3. Compile statistical reports for internal distribution	3.1 3.2 3.3 3.4	Information to be recorded is collected according to standard operating procedures Information is verified according to quality standards Statistical and historical information is recorded from existing documentation Reports are disposed of according to workplace procedures
4. Participate in meeting for frontline operations	4.1 4.2 4.3 4.4	Performance exceptions are reviewed according to organisation's policies and procedures Corrective actions are implemented where necessary according to organisation's policies and procedures Daily point of sale activities are planned according to operational plans Action plans are implemented according to operational plans
5. Prepare point of sale workstation for frontline	5.1 5.2 5.3 5.4 5.5 5.6	Workstation is rendered presentable according to quality frontline standards Workstation is prepared according to standard operating procedures Workstation is checked for functionality according to standard operating procedures Required equipment is set out according to standard operating procedures Access to financial systems, where necessary, is obtained according to standard security procedures Workstation equipment, cash and stock is secured according to standard security procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA according to the moderation guidelines and the agreed ETQA procedures will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Correspondence may include but not limited to memo's, faxes, flash faxes, circulars, take-notes, electronic mail, directives, instructions

Documentation may include but not limited to attendance registers, record books, clock cards, leave forms, application and registration forms, claim forms

Statistical information may include but not limited to balance sheets, balance books, reports, work sheets office records

Equipment may include but not limited to date stamps, safes, tills, counter equipment, stationary

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome	Assessment Criteria
Solve problems	4	4.3
Work effectively with others	4	4.1; 4.2
Employ self management	5	All
Manage information	1; 2; 3	All
Communicate effectively	1; 2; 3	All
Demonstrate scientific and technological competence	5	4.4
Understand Contextual world-systems	5	All

Essential embedded knowledge

Credited learners understand and can explain:

Organisational specific policies, procedures and systems

Organisational vision, mission and operational objectives

Further Education and Training Certificate: Mail Supervision (NQF Level 4)

<u>Field:</u>	Services
<u>Sub-field:</u>	Consumer Services
<u>Level:</u>	4
<u>Total credits:</u>	148

Rationale

This qualification is designed to meet the workplace-based needs of the Postal Industry that relates to the supervision of the handling and processing of mail, as expressed by employers and employees. The qualification will equip the learner with competencies that will enhance accessibility to employment in the Postal Industry, whilst also providing flexibility to facilitate the pursuit of different career opportunities. The generic nature of some competencies will allow for transferability, facilitating the address of national through to individual needs. Competencies acquired are primarily aimed at optimising the service delivery, profitability and image of organisations within the Postal Industry.

Access to the qualification

It is advisable that learners have already attained the competencies reflected under "learning assumptions" before embarking on learning towards this qualification. There are no further access requirements for this qualification.

Purpose of the qualification

This qualification is aimed at creating a competent workforce in the postal industry that will enable the industry to meet current and future needs. It will allow learners within the industry to obtain a nationally recognised qualification in the supervision of handling and processing mail, whilst simultaneously altering the current negative perception of the Postal Industry in South Africa, by increasing the levels of efficiency. Thus it will set a standard to create and ensure quality delivery of all mail products in the Postal industry.

Learning assumed to be in place

It is assumed that learners embarking on learning towards this qualification are already competent in the areas of communication, mathematics and computer literacy at NQF level 3 in the Further Education and Training Band, and Life Skills at NQF level 2. These competencies are required in order to communicate verbally and in writing (for example with mail handlers), and in order for workers to conduct themselves professionally.

Rules of combination

This qualification is designed as follows:

Compulsory	All Fundamental Unit Standards
	All Core Unit Standards
Optional at least 10 credits, from Elective Unit Standards, in the following "modules"	Career: Identify possible ways of improving employment prospects (3 Credits) Manage individual careers (5 Credits) Analyse the skills development legislation and apply it in the workplace (4 Credits)
	IT Produce a word processing document for business (5 Credits) Produce and use spreadsheets for business (5 Credits) Produce presentation documents for business (5 Credits)
	Junior Management Apply a range of project management tools (8 Credits) Advise on the management of a skills development course (6 Credits) Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (8 Credits)

Qualification	Fundamental	56
	Core	82
	Elective	10
Total		148

Exit Level Outcomes and Associated Assessment Criteria

On achieving this qualification, a learner is able to:

FUNDAMENTAL

- 1 Use and interpret language effectively for verbal and non-verbal communication

Assessment criteria: Verbal and non-verbal communication is used effectively

Text and subtext of verbal and non-verbal communication is identified and acted on

Communication is used to learn individually or in groups

- 2 Use mathematics for personal and business applications

Assessment criteria: National regional and personal budgets are analysed accurately

Calculations and statistics are used correctly and accurately

Calculations and instruments are used accurately and taken into account when reporting final values.

CORE:

3. Supervise mail operations and perform basic management functions

Assessment criteria: Mail operations are supervised within the parameters of Health and Safety legislation

Budgets are managed ethically and in accordance with organisation's requirements

Office supplies are managed in accordance with organisation's requirements

4. Monitor and participate in the management of people in the workplace

Assessment criteria: Employment relations legislation is applied in the workplace, within the limitation of the job description, occupational health legislation and organisational policies

Conflict management is applied to resolve workplace related problems effectively

Own performance and development is monitored to identify areas of potential development

5. Implement policies and engage in other preventative activities around HIV/AIDS

Assessment criteria: The impact of HIV/AIDS in the workplace is communicated to others

Information around HIV/AIDS is distributed in the workplace to ensure a high level of awareness

Workplace policies on HIV/AIDS are implemented effectively

6. Participate in the management of projects

Assessment criteria: Projects are participated in as a member of a team, in a way that enhances effectiveness of a team

Project meetings are planned and organised effectively and within realistic timeframes

Projects are supported and information regarding projects, is distributed effectively in the workplace

ELECTIVE (10 Credits)

7. Participate in the development of careers of self and others

Assessment criteria: Skills development is applied in workplace according to legislation

Career guidance is offered to others within the parameters of pragmatics, legislation and organisational goals.

Own career is managed within the parameters of pragmatics, legislation and organisational goals

8. Use information technology in the workplace to enhance overall efficiency and effectiveness

Assessment criteria: The need for and applications of information technology is placed within the workplace context

Applications of information technology is used in the workplace to the benefit of the individual and the organisation

9. Perform various junior management tasks in the workplace

Assessment criteria: Projects are managed using predefined tools appropriately

Advice is given on the development of skills of others to benefit both the individual and the organisation

Risks relating to occupational health and occupational hygiene are managed to ensure legal compliance

International comparability

Various international Qualification Authorities were researched to establish the international alignment of this qualification. These Authorities include:

- Qualifications Curriculum and Assessment Authority for Wales
- National Skills Standards Board Institute, USA
- Australian Qualifications Framework
- Scottish Qualifications Authority
- New Zealand Qualifications Authority
- National Qualifications Authority of Ireland
- Northern Ireland Council for the Curriculum, Examinations and Assessment

The Qualifications and Curriculum Authority, UK, showed close overlap with this qualification. This authority has 2 similar, registered, qualifications:

Title: Mail Operations

Level: 2-Intermediate

Candidates must complete a total of 6 units for the qualifications:

Three mandatory units from Group A:

- Contribute to the Maintenance of Health and Safety in the Workplace
- Contribute to the Security of the Workplace
- Identify and Support Improvements to Customer Service and Business Operations

Group B - One Optional Units

- Separate Mail for Processing
- Sort Mail Manually
- Sort Mail Through Automated Processing Systems
- Deliver Mail to Domestic and Business Customers

Group C - Two Optional Units

- Contribute to Effective Working Relationships
- Meet Customers' Needs for Information and Advice
- Contribute to the Maintenance and Security of Vehicles
- Process Orders using Automated Assembly Systems
- Collect and Transport Mail for Processing
- Contribute to Maintaining the Effectiveness of Mail Processing Machinery

Group D – Optional Additional Units:

Various language Units

The present qualification aligns well with the UK qualifications' compulsory Group A units. The Group B units are operational and reflect the type of competencies that learners of the present qualification will supervise. The Units in Group C units overlaps somewhat, but again the present qualification focuses more on supervision.

In general the UK qualifications overlap, but focuses more on operational competencies rather than the supervision of the competencies, the latter which was also a need identified in South Africa, and which was to be met by the present qualification.

Integrated assessment

Learners are expected to demonstrate competence in a way that integrates all outcomes, showing their ability to integrate concepts, ideas and actions across unit standards, in order to achieve competence that is grounded and coherent in relation to the purpose and exit level outcomes of the qualification. Assessors should make use of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies.

Integrated assessment must assess the quality of the observable performance, as well as the quality of thinking that lies behind it. Assessment tools must thus encourage learners to explain the thinking and decision-making that underpin their performance. Assessment criteria in the unit standards are performance-based (applied competence as opposed to required knowledge only). Workplace experience may be recognised when awarding credits towards this qualification.

A broad range of task-oriented and theoretical assessment tools may be used, and the distinction between practical knowledge and disciplinary knowledge must be maintained.

Recognition of prior learning (RPL)

This qualification can be achieved through recognition of prior learning, both in part or as a whole. Recognition of prior learning will include formal, informal and non-formal learning and workplace experience, in terms of the criteria laid out.

Any learner wishing to be directly assessed may arrange to do so, without participating in further training or education.

Articulation possibilities

This qualification will allow learners to articulate:

Vertically to: National Certificate in Frontline Service Management (NQF Level 5)

Horizontally to: National Certificate: Management (NQF Level 4)

Moderation options

Moderation includes both internal and external moderation of assessments at exit points of the qualification and encompasses achievement of the competence described both in unit standards as well as the integrated competence described in the qualification.

Assessment of learner achievements take place at ETQA accredited providers for the provision of programmes that result in the outcomes specified for the Further Education and Training Certificate in Mail Supervision, NQF level 4. These providers are responsible for the moderation of learner achievements of learners who meet the requirements of each unit standard. Those assessing the outcomes of this unit standard should be qualified and registered with the relevant ETQA.

A moderator registered with the relevant ETQA will externally moderate each Unit Standard.

Anyone wishing to be assessed against this Qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

Notes to Assessors

Assessors should keep the following principles in mind when designing and conducting assessments against this qualification:

- Focus the assessment activities on gathering evidence in terms of the main outcome expressed in the title to ensure assessment is integrated rather than fragmented. Remember we want to declare the person competent in terms of the title. Where assessment at title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes.
- Make sure evidence is gathered across the entire range, wherever it applies. Assessment activities should be as close to the real performance as possible, and where simulations or role-plays are used, there should be supporting evidence to show the learner is able to perform in the real situation.
- Do not focus the assessment activities on each assessment criterion. Rather make sure the assessment activities focus on outcomes and are sufficient to enable evidence to be gathered around all the assessment criteria.
- The assessment criteria provide the specifications against which assessment judgements should be made. In most cases, knowledge can be inferred from the quality of the performances, but in other cases, knowledge and understanding will have to be tested through questioning. Where this is required, there will be assessment criteria to specify the standard required.
- The task of the assessor is to gather sufficient evidence, of the prescribed type and quality, as specified in this qualification, that the learner can achieve the outcomes repeatedly. This means assessors will have to judge how many repeat performances are required before they believe the performance is reproducible.

All assessments should be conducted in line with the following well documented principles of assessment: appropriateness, fairness, manageability, integration into work or learning, validity, direct, authentic, sufficient, systematic, open and consistent

Component	Level 3			Level 4			Level 5		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Fundamental				1. Engage in sustained oral communication and evaluate spoken texts (8974)	4	5			
				2. Read, analyse and respond to a variety of texts (8975)	4	5			
				3. Write for a wide range of contexts (8976)	4	5			
				4. Use language and communication in occupational learning programmes (8979)	4	5			
	5. Accommodate audience and context needs in oral communication (8968)	3	5						
	6. Interpret and use information from texts (8969)	3	5						
	7. Write texts for a range of communicative contexts (8970)	3	5						
	8. Use language and communication in occupational learning programmes (8973)	3	5						
				9. Use mathematics to investigate and monitor the financial aspects of personal, business, and national issues (9014)	4	6			
				10. Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on liferelated problems (9015)	4	6			
				11. Represent, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts (9016)	4	4			
Fundamental Total		3	20		4	36		5	0

Component	Level 3			Level 4			Level 5		
	Proposed Unit Standard Title	Lev	Cred	Proposed Unit Standard Title	Lev	Cred	Proposed Unit Standard Title	Lev	Cred
Core				8 Describe and apply the management functions of an organisation (14667)	4	10			
				9 Apply the budget function in a business unit (13941)	4	5			
				10 Manage Mail Operations (New)	4	15			
				11 Manage and control office supplies (New)	4	6			
	12 Demonstrate knowledge and understanding of HIV/Aids in a workplace and its effects on a business sub sector, own organisation and a specific workplace (13915)	3	4						
				13 Contribute to information distribution regarding HIV/AIDS in the workplace (8555)	4	4			
							14 Implement policies regarding HIV/AIDS in the workplace (9224)	5	4
				15 Monitor occupational health & safety (9243)	4	8			
							16 Participate in management of conflict (14609)	5	4
	17 Demonstrate understanding of employment relations in an organisation (10170)	3	3						
				18 Conduct a self-evaluation of own progress and development (110057)	4	2			
				19 Work as a project team member (10135)	4	8			
				20 Plan, organise and support project meetings and workshops (10136)	4	4			
	21 Gather and provide relevant information to contribute to project problem solving (13886)	3	5						
Core Total		3	12		4	62		5	8

Component	Level 3			Level 4			Level 5		
	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits	Proposed Unit Standard Title	Level	Credits
Elective	Identify possible ways of improving employment prospects (10713)	3	3						
							Manage individual careers (11911)	5	5
				Analyse the skills development legislation and apply it in the workplace (14551)	4	4			
	Produce a word processing document for business (7570)	3	5						
	Produce a use spreadsheets for business (7567)	3	5						
	Produce presentation documents for business (7575)	3	5						
				Apply a range of project management tools (10140)	4	8			
				Advise on the management of a skills development course (14550)	4	6			
				Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene (13950)	4	8			
	Elective Total	3	18		4	26		5	5
Overall Total		3	50		4	124		5	13

Qualification	Fundamental	56
	Core	82
	Electives	10
Total		148

Unit Standards: Further Education and Training Certificate in Mail Supervision. (NQF LEVEL 4)

Title: Manage mail operations

Title: Manage and control office supplies

Unit Standards with Specific Outcomes: Further Education and Training Certificate in Mail Supervision (NQF LEVEL 4)

Title: Manage mail operations

Specific Outcome 1.1: Supervise the processing of articles in mail operations

Specific Outcome 1.2: Supervise the handling of articles in mail room

Specific Outcome 1.3: Audit the process of postal articles/containers

Specific Outcome 1.4: Assign crew/staff for operations in mail room

Specific Outcome 1.5: Ensure mail security within set infrastructure

Title: Manage and control office supplies

Specific Outcome 2.1: Attend to internal client requisitions for office supplies

Specific Outcome 2.2: Monitor and control office equipment in a mail environment

Specific Outcome 2.3: Ensure the security of stock in a mail environment

Specific Outcome 2.4: Maintain stock levels in mailing environment

Specific Outcome 2.5: Facilitate orders between internal client and suppliers of office consumables and equipment

MANAGE MAIL OPERATIONS

Unit Standard NLRD Number:

NQF Level: 4

Credits: 15

Field: Services

Sub-field: Consumer Services

Issue Date:

Review Date:

Purpose:

A person credited with this unit standard will be able to manage the process of handling postal articles and containers. The unit standard will contribute to the full development of any learner within the postal industry by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the Postal Industry specifically, leading to greater levels of productivity and quality in this sector. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the postal industry.

Learning assumed to be in place:

It is recommended that the learner has NQF level 3 fundamental competencies in literacy and mathematics.

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
Supervise the processing of articles in mail operations	1.1 Incoming containers/postal articles are verified against consignment note and transferred to the relevant section 1.2 Opening and content check of containers are controlled to be according to organisation's policies and procedures 1.3 Processing of postal articles is controlled to be according to organisation's policies and procedures. 1.4 Closure and dispatch of mail containers are supervised and controlled to be according to organisation's policies and procedures 1.5 Monitoring, controlling and auditing processes are implemented to ensure ethical conduct and best practice 1.6 Time of self and subordinates is managed to optimise efficiency of operation
Supervise the handling of articles in mail room	2.1 Handling and safeguarding of recorded articles is controlled to be according to organisation's policies and procedures 2.2 Particulars and figures of recorded articles in mail balances

		is verified and compared with the relevant office records to ensure correctness
	2.3	Discrepancies in the mail balance check are recorded and rectified according to workplace procedures
	2.4	Undeliverable postal articles are received and processed efficiently
Audit the process of postal articles/containers	3.1	Quality checks are performed according to quality standards
	3.2	Deviations are recorded, reported and rectified to ensure compliance with quality standards.
	3.3	Documentation is compiled and sent to the relevant sections according to standard workplace procedure
	3.4	Articles are selected at specific intervals and tested against set standards.
Assign crew/staff for operations in mail room	4.1	Staff is scheduled according to volumes and set best practice
	4.2	Manpower shortages and surpluses are identified and rectified according to standard workplace procedure
	4.3	Performance is measured according to quality standards and standard workplace procedure
	4.4	Measurement result is analysed according to quality standards
	4.5	Report is compiled which includes recommendations based on sound arguments
	4.6	Labour productivity levels are determined according to quality standards
Ensure mail security within set infrastructure	5.1	Equipment is placed in demarcated areas according to security requirements
	5.2	Security surveillance irregularities are reported using correct protocol and channels
	5.3	Security officers presence is ensured within security requirements
	5.4	Security transgressions are dealt with using correct protocol and channels
	5.5	Security division is briefed on suspicious circumstances according to security and quality standards

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA, according to the moderation guidelines and the agreed ETQA procedures, will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

- Containers may include, but is not limited to rolltainers, letter or parcel bags and delivery bags, trays, bins, troughs.
- Controlling the consignment of incoming mail may include: but not limited to, mail bags, envelopes, trays, rolltainers, mail list, tick sheet, consignment note, tracking document, record book, sealing equipment.
- Procedural handling of recorded articles may include, but not limited to, registered articles, insured parcels, COD's, overseas parcels, mail balance, office record, delivery notification,

dispatch bill, container note.

- Ensuring quality checks of postal articles may include, but is not limited to recorded articles, mail balance address boxes, spot checks, quality check report, record book, letter – and parcel bill. Audits of all processes, excess boxes/bags, letter boxes and delivery bags.
- Reports include sectional and individual reports.

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	3; 4	3.2; 4.2; 4.5
Work effectively with others	4	4.3
Employ self management	All	All
Manage information	3; 4	3.3; 4.5
Communicate effectively	4	4.3; 4.5
Demonstrate scientific and technological competence	4; 5	4.5; 5.1
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- The operation and maintenance of postal equipment (including scanners)
- Company policies and procedures related to the purpose of this unit standard
- Housekeeping and Safety procedures within the context of mail operations
- Production processes within the context of mail operations
- Principles and procedures of quality assurance measures
- Legislation and regulations regarding staff, health and safety
- Products and operations of mail operations
- Customer orientation
- Geographical knowledge related to the Postal Service
- Monitoring and auditing
- Planning
- Time management
- Information systems

MANAGE AND CONTROL OFFICE SUPPLIES**Unit Standard NLRD Number:****NQF Level:** 4**Credits:** 6**Field:** Services**Sub-field:** Consumer Services**Issue Date:****Review Date:****Purpose:**

A person credited with this unit standard will be able to manage and control office supplies within the context of postal services. The unit standard will contribute to the full development of any learner within the Postal Service by providing recognition, further mobility and transportability within the field. It contributes to the competence of those learners who want to pursue a career in the Postal Industry, leading to greater levels of production and quality in this sector. However, the competencies acquired during the acquisition of this Unit Standard are also generic and valuable in any environment where the control of office supplies is required. The knowledge, skills and understanding demonstrated in this unit standard is essential for social and economic transformation and upliftment within the Postal Service.

Learning assumed to be in place:

It is recommended that the learner has NQF level 3 fundamental competencies in literacy and mathematics

Specific outcomes and assessment criteria:

Credited learners are able to:	Evidence shows that:
Attend to internal client requisitions for office supplies	1.1 Relevant documentation is compiled according to organisation's procedures. 1.2 Requisitions are processed according to organisation's protocol. 1.3 Supplies are maintained and checked for quality compliance 1.4 Supplies are distributed according to organisation's procedures
Monitor and control office equipment in a mail environment	2.1 Allocated stock is recorded in relevant systems 2.2 Received stock is checked for quality compliance 2.3 Stock that does not meet quality requirements is dealt with according to organisation's protocol. 2.4 Stock sheet is maintained according to relevant stock control system 2.5 Stock losses are identified and reported according to channels and security protocol
Ensure the security of stock	3.1 Allocated stock is stored according to security protocol

in a mail environment	3.2	Movement through and access to the stock room is controlled to retain integrity of security system
	3.3	Stock losses are identified and reported according to channels and security protocol
	3.4	Accountability and responsibilities are accepted congruent with job description
Maintain stock levels in mailing environment	4.1	Low stock levels are identified according to history of stock item movement
	4.2	Adequate levels of reserve supplies are kept according to history of stock item movement
	4.3	Stock requisitions are compiled and submitted timeously
	4.4	Supplies are received and stored according to security protocol
	4.5	Received supplies are checked against order and appropriate action taken if necessary according to channels and security protocol
Facilitate orders between internal client and suppliers of office consumables and equipment	5.1	Internal client is briefed on practicability of requests in a way congruent with job description
	5.2	Database of suppliers is maintained on appropriate system
	5.3	Suppliers are evaluated for credibility in an ethical manner and according to organisation's policies and procedures
	5.4	Feedback is given to suppliers on product problems according to organisation's policies and procedures

Accreditation process and moderation:

- Anyone assessing a learner against this unit standard must be registered as an assessor with a relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider with a relevant ETQA.
- The relevant ETQA, according to the moderation guidelines and the agreed ETQA procedures, will oversee moderation of assessment and is responsible for moderation of learner achievements of learners who meet the requirements of this unit standard.

Range statements:

Supplies that are controlled include;

- Stationery
- Computer equipment
- Operational equipment (trays)
- Labels
- Housekeeping equipment (broom etc)

Notes:

Critical cross-field outcomes

Credited learners have attained the generic ability to:

Critical cross-field outcome	Specific Outcome/s	Assessment Criteria
Solve problems	2; 4	2.3; 4.1; 4.2; 4.3
Work effectively with others	5	All
Employ self management	All	All
Manage information	All	All

Communicate effectively	5	All
Demonstrate scientific and technological competence	2; 5	2.1; 5.2
Understand contextual world systems	All	All

Essential embedded knowledge

Credited learners understand and can explain:

- Supplier selection criteria
- Stock control
- Context specific equipment and supplies
- Context specific standard operating procedures
- OHSA
- Channels of communications

TITLE: Commission electronic telecommunications products and services

FIELD: Manufacturing, Engineering and Technology

Sub-field: Engineering and Related Design

Level: 5

Credits: 7

Issue date:

Review date:

Purpose:

This unit standard is for persons who currently are, or will be, configuring and commissioning electronic telecommunications products and services.

A person credited with this unit standard is capable of:

- Able to ensure products and services are installed in the correct configuration
- Operate in the manner required by both the customer and the manufacturer/service provider
- Includes hand over of products and services to customers and basic operator training.

This unit standard will contribute to the full development of any learner within the Telecommunications environment, more specifically within maintenance by providing recognition, further mobility and transportability within the field. The knowledge, skills and understanding demonstrated in this unit standard are essential for upliftment, social and economic transformation in the Telecommunications environment.

LEARNING ASSUMED TO BE IN PLACE

The following knowledge, skills, attitude and/or equivalent is assumed to be in place:

- Analytical skills
- Communication and Language
- Computer literacy
- Mathematics and Science
- Principles of digital electronics
- Fault Finding Skills
- A sound understanding of test equipment used in Telecommunications
- Telecomm. Related product course

- Competent in operating and installing Basic Telecommunication Equipment.

RANGE

- Electronic telecommunications products and services: those electronic products and services relating to electronic telecommunications systems including transmission equipment, teletext, transmitters and receivers, customer premise equipment, operating support systems, data, voice, networks, links, test equipment, cryptographic systems, power supply, cabling, jamming, switches;
- Customers: internal, external, end-users, users of the product or system, managers, supervisors.
- Activities must comply with policies; procedure and requirements of the organizations involved; the ethical codes and standards of relevant professional bodies: and the relevant legislative and/or regulatory requirements.

Context

This unit standard is performed within structures where stationery, support structure, communication media, employer's policies and procedures, cultural ethics, business ethics, work environment, professional conduct, test instrumentation, tools, human resources, customer, material, equipment, quality standards, SABS standards, anti-static procedures, training facilities, technology and transportation are applicable.

The level assigned to this unit standard is appropriate because:

- Demonstrates comprehensive and employ a in depth range of skills in Telecommunication.
- Applies solutions to unknown problems.
- Demonstrates basic processing of readily available information.
- Shows basic competence in a limited range of established and familiar contexts under general supervision and quality control.
- Follows established and familiar procedures.
- Co-operates with others.
- Some limited/restricted responsibility for quantity and quality of one's own output.
- Responsible for guiding others.

SPECIFIC OUTCOMES AND ASSESSMENT CRITERIA

Specific outcome 1

Pre-commissioning and administration

Assessment criteria

- 1.1 Commissioning and cut over plans are implemented and installation meets customer satisfaction.
- 1.2 Internal client, customer and vendor requirements are identified
- 1.3 Planned configuration uses standard site configurations to implement commissioning plans
- 1.4 Configuration changes are made to the system and put into operation using site standard procedures. This includes explaining the changes to operators, obtaining all relevant permits, and following isolation and back-up procedures.
- 1.5 Electronic telecommunications products and services meet customer's operational configuration requirements.
- 1.6 Communication with identified customer contact personnel is maintained on a regular basis.
- 1.7 Calibration dates of test equipment is verified and correct
- 1.8 Correct procedure is followed when entering a customer site
- 1.9 Time management principles are described and explained
- 1.10 Prioritizing principles are explained

Specific outcome 2

Configure and commission electronic telecommunications products and services.

Assessment criteria

- 2.1 Installation is checked and verified to customer specifications
- 2.2 Software tools for off-line configuration are used in accordance with the configuration plan and manufacturer's instructions.
- 2.3 A test and commissioning procedure is developed in accordance with site procedures.
- 2.4 Commissioning typically includes - adjustment of constants, record of initial performance, alterations to initial design where necessary, consideration of consequences of commissioning on plant safety.
- 2.5 Commissioning tests are conducted in accordance with specifications, and equipment alignment and performance levels are correct.
- 2.6 Electronic products and services are commissioned within agreed timeframes and budgets.

2.7 Opportunities to improve commissioning of electronic products and services are identified and action is taken promptly.

Specific outcome 3

Post-commissioning and administration

Assessment criteria

3.1

3.2 Installation irregularities are identified and noted to customer specifications

3.3 Installation conforms to instructions, specifications and standards

3.4 Back-up copies of configuration software are made in accordance with site procedures.

3.5 Documentation for the commissioning of electronic telecommunications products and services is complete, and filed in the correct place by the agreed time.

3.6 Documentation is updated in accordance with site procedures.

ACCREDITATION PROCESS (including moderation):

Anyone assessing a learner against this unit standard, must be registered as an assessor with the relevant ETQA

Any institution offering learning that will enable achievement of this unit standard must be accredited in terms of the criteria laid down by the relevant ETQA.

Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures

NOTES

1. CRITICAL CROSS FIELD OUTCOMES

1.1 Organize and manage oneself and one's personal activities responsibly and effectively.

1.2 Identify barriers pertaining to the equipment maintenance and developed strategies to overcome them.

1.3 Work effectively with others as a member of a team in performing operational activities on Telecomm. Equipment.

- 1.4 Work effectively with role players in order to ensure that equipment is maintained and that customer's requirements are met.
- 1.5 Manage activities in terms of preparation, planning, conducting and concluding equipment maintenance effectively to ensure an accurate and professional service delivery.
- 1.6 Maintenance is conducted in order to prevent and solve any problem effectively.
- 1.7 Technology will assist in improving the entire maintenance process.
- 1.8 Be culturally sensitive across a range of social contexts when consulting customers.
- 1.1 Communicate effectively when performing maintenance activities.

EMBEDDED KNOWLEDGE

- Use and functions of systems documentation in Telecommunication equipment
- Use oral and written communication when liaising with customer.
- Complete documentation after conducting equipment maintenance.
- Apply decision-making and problem solving skills before and during equipment maintenance.
- Demonstrate understanding of product facilities and operations.
- Demonstrate understanding of the policies and procedures.
- Reach agreement with the customer through negotiation.
- Facilitate co-operation between role-players.
- Apply light current electrical principles during equipment maintenance.
- Apply faultfinding procedures before, during and after equipment maintenance.
- Utilise test instruments during testing process.
- Demonstrate understanding of the correct use of tools.
- Demonstrate computer literacy

SUPPLEMENTARY INFORMATION

The standard describes competent performance in performing maintenance activities Telecommunications Systems, and lay down the criteria by which competence should be judged, as well as the range of circumstances in which competence should be demonstrated.

Integrated assessment methods and tools will allow the candidate to demonstrate that she/ he has acquired knowledge of and can safely and effectively apply competence identified in this unit standard.

These tools include the following:

- In-situ (on-the-job) observations
- Role-play simulations
- Structured group discussions
- Written reports (e.g. tests, exams, case studies, projects, registers, logbooks, workbooks)
- Verbal report backs (presentations)
- Portfolios of evidence
- Projects (physical visits to Government Departments)
- Experiential learning
- Working in teams
- Scenario sketching

These methods must be carefully selected based on the purpose of the assessment (For example, the written method of assessing knowledge or on-job demonstration of practical competence). The assessment must integrate a number of different methods in order to give the assessor reliable and valid proof of competence and evidence of required attitudes.

Candidates are assessed against these assessment criteria. An assessor observes currently employed candidates carrying out their normal work duties. They may also be asked to carry out simulated tasks and to answer written and/or oral questions. Candidates studying towards a Unit Standard, and who are not currently employed, will also be assessed using variety of assessment tools.

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