	Unit ID: 2220
Domain	**PRECISION MACHINING AND FITTING**
Title:	**Perform basic lathe and milling machine operation**
Level: 4	**Credits: 8**

Purpose

This unit standard is intended for those who perform basic lathe and milling machine operation. People credited with this unit standard are able to describe basic lathe and milling machine operations; perform machine settings; perform lathe machine operations adjustments of cutting speeds; perform milling operations and maintain machines.

This unit standard is intended for those who work in automotive mechatronics environment.

Special Notes

1. Entry information

   Prerequisite
   • *none*

2. This unit standard is to be assessed in the context of automotive mechatronics operations and should be assessed in conjunction with other relevant technical unit standards selected from this domain.

3. Assessment evidence may be collected at a real workplace or simulated workplace in which automotive engineering operations are carried out.

4. Glossary of terms:
   - *'Specifications'* refers to any, or all the following: manufacturers' specifications and recommendations, workplace specific requirements, national and international standards and legislations
   - *'ISO'* refers to International Organization for Standards

5. Performance of all elements in this unit standard must comply with industry standards and workplace requirements.

6. Regulations and legislation relevant to this unit standard include the following:
   - Labour Act No. 11 of 2007
   - Regulations relating to the health and safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007.
   - ISO 14001 (Environmental Management Standard) and all subsequent amendments to any of the above.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Describe basic lathe and milling machine operations

Performance Criteria

1.1 Different parts of a lathe machine are identified and explained.

1.2 Different parts of a milling machine are identified and explained.

1.3 Operation characteristics of a lathe and a milling machine are explained.

Element 2: Perform machine settings

Performance Criteria

2.1 Different machine settings are identified according to workplace procedures.

2.2 Machine is set according to materials selected as well as workplace procedures.

Element 3: Perform lathe machine operations adjustments of cutting speeds

Performance Criteria

3.1 Personal protective equipment is worn according to workplace procedures.

3.2 Workpiece is clamped in the chuck according to workplace procedures.

3.3 Cutting tool is selected and secured according to workplace procedures.

3.4 Cutting speeds and feed are selected according to workplace procedures.

Element 4: Perform milling operations

Performance Criteria

4.1 Personal protective equipment is worn according to workplace procedures.

4.2 Workpiece is clamped according to workplace procedures.

4.3 Milling tool is selected and secured according to workplace procedures.

4.4 Milling speeds are selected according to workplace procedures.

Element 5: Maintain machines

Performance Criteria

5.1 Machines are cleaned according to workplace procedures.

5.2 Machines are lubricated according to workplace procedures.

5.3 Loose connections are secured according to manufacturers' procedures.

5.4 Loose bolts and nuts are tightened according to workplace procedures.

Registration Data

Subfield:	Mechanical Engineering
Date first registered:	22 April 2020
Date this version registered:	22 April 2020
Anticipated review:	2025
Body responsible for review:	Namibia Training Authority