



# UNDERGROUND MINING

## Further Education and Training Certificate: Mining Operations

**SAQA:** 74490  
**NQF:** 4  
**Duration:** 12 Months

**Accrediting SETA:** MQA  
**Credits:** 160  
**RPL:** Yes

### Purpose

The Production Supervisor plays a critical role in the mining industry. Mining activities are often conducted under dangerous and difficult conditions, which have to be managed appropriately in order to preserve the lives of those working in the industry, and ensure operational efficiency. While the title "supervisor" implies to specific competencies, these competencies are applied in conjunction with technical and operational competencies. The Production Supervisor must adapt continually to changing physical conditions in his or her area of responsibility e.g. geology and blast damage. He/she is accountable for the occupational health and safety of the team, as well as for achieving production targets.

### Entry Criteria

- Communications and Mathematical Literacy - NQF Level 3
- First Aid Certificate – NQF level 3

### Qualification Rules:

This qualification is made up of fundamental, core and elective unit standards and a minimum of 126 credits is required to complete the qualification:

#### Fundamental:

- All 56 credits must be achieved with 2 languages at NQF level 3 and 4

#### Core:

- All 54 credits must be achieved

#### Elective:

- The elective component consists of 2 specialisation areas:
  - Surface Excavations
    - For blasted surface excavations SAQA ID 257075 must be achieved.
  - Small Scale Mining
- Learners are to choose a specialisation area and then complete Unit Standards listed for that specialisation totalling a minimum of 50 Credits.

### Exit Level Outcomes:

- Communicate and solve problems by applying mathematical practical applications in a variety of ways.
- Adhere to occupational health, safety and environmental requirements in the workplace.
- Supervise the extraction of minerals to meet production targets; taking into account the Occupational Health, Safety, Quality and Environmental requirements.
- Conduct mining operations in conjunction with technical services department to optimize the mining process.

## Core Unit Standards

SAQA ID	UNIT STANDARD TITLE	CREDITS
120335	Conduct an investigation into workplace incidents	5
120331	Demonstrate knowledge pertaining to fires in working places	3
336945	Conduct an issue-based risk assessment within a workplace	3
336919	Demonstrate an understanding of continual improvement in the mining cycle	4
336908	Demonstrate an understanding of essential basic engineering principles that are applicable to the mining environment	4
336959	Demonstrate an understanding of labour supervision and production procedures for supervisors in the workplace	7
336943	Demonstrate an understanding of mining related strata control issues impacting on mining practice	8
336940	Demonstrate an understanding of strata control theory and terminology relevant to mining environment	8
336904	Demonstrate knowledge of basic mining economics	4
336910	Demonstrate knowledge of environmental awareness in the mining industry	3
336899	Demonstrate knowledge of legislation impacting on mining environment	5

## Fundamental Unit Standards

SAQA ID	UNIT STANDARD TITLE	CREDITS
119472	Accommodate audience and context needs in oral/signed communication	5
119457	Interpret and use information from texts	5
119467	Use language and communication in occupational learning programmes	5
119465	Write/present/sign texts for a range of communicative contexts	5
9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	6
119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	5
119469	Read/view, analyse and respond to a variety of texts	5
9016	Represent analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	4
119471	Use language and communication in occupational learning programmes	5
7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	6
119459	Write/present/sign for a wide range of contexts	5

## Surface Excavations Elective Unit Standards

SAQA ID	UNIT STANDARD TITLE	CREDITS
336903	Coordinate surface excavation operation	10
244407	Lift and move a load using mechanical lifting equipment	7
257075	Design blasts for surface excavations	24
337000	Develop a short term surface excavation scheduling	7
336914	Implement and maintain services and infrastructure in surface excavation	7
336920	Implement and monitor grade and quality control for surface excavations	4
336909	Apply strata control techniques and processes in surface excavation	7
230017	Carry out blasting environmental testing	6
257095	Carry out basic surveying and calculations in surface excavations	8
336961	Construct and maintain roads in surface excavations	7

336965	Demonstrate an understanding of surface excavation	7
336966	Demonstrate an understanding of extraction and the beneficiation of minerals on surface excavations	9
336999	Coordinate the development of surface excavation operations	7

### **Small Scale Mining Elective Unit Standards**

<b>SAQA ID</b>	<b>UNIT STANDARD TITLE</b>	<b>CREDITS</b>
260982	Acquire authorization needed for small-scale prospecting and mining	2
337019	Conduct mineral and ore sampling on a small-scale mine	3
336960	Plan logistics and services for a small-scale mine	3
336939	Demonstrate an understanding of the mine health and safety Act, for small-scale mining	6
336941	Compile an integrated environmental impact management plan for a small-scale mine	9
336916	Demonstrate knowledge and application of ground stability for small scale mining	12
336963	Conduct prospecting relevant to small-scale mining	10
336942	Plan a mineral processing plant for a small-scale mine	9
336901	Plan run of mine excavation process for a small-scale mining operation	6
336913	Compile a strategic plan for a small-scale mining	18