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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

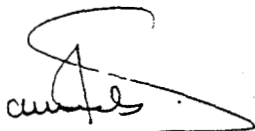
Mathematical Literacy

Registered by NSB 10, Physical, Mathematical, Computer and Life Sciences, publishes the following unit standards-based public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and the titles and specific outcomes of the unit standards. The unit standards can be accessed via the SAQA web-site at www.saqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 659 Pienaar Street, Brooklyn, Pretoria.

Comment on the qualifications and unit standards should reach SAQA at the address below and no later than 14 September 2001. All correspondence should be marked **Standards Setting – SGB for Mathematical Literacy** and addressed to

The Director: Standards Setting and Development
SAQA
Attention: Mr. D Mphuthing
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Private Bag X06
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SAMUEL B.A. ISAACS
EXECUTIVE OFFICER

FUNDAMENTAL UNIT STANDARDS AT NQF LEVELS 2, 3 AND 4

Field: Physical, Mathematical, Computer and Life Sciences

Sub-field: *Mathematical Literacy***Unit standards at NQF levels 2**

Title	Credits
1. Demonstrate understanding of rational and irrational numbers and number systems	3
2. Use mathematics to investigate and monitor the financial aspects of personal and community life	2
3. Work with a wide range of patterns and basic functions and solve related problems	2
4. Use mathematical models to represent and deal with problems that arise in real life contexts	2
5. Identify, describe, compare, classify, calculate shape and motion in 2 and 3-dimensional shapes in different contexts	3
6. Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	4
Total credits	16

Unit standards at NQF level 3

Title	Credits
1. Demonstrate understanding of numbers and relationships among numbers and number systems, and represent numbers in different ways	2
2. Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	2
3. Work with a wide range of patterns and basic functions and solve related problems	3
4. Describe, apply, analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	4
5. Apply the knowledge of statistics and probability to inform the collection and use of data and procedures in order to investigate life related problems and interpret the findings	5
Total credits	16

Unit standards at NQF level 4

Title	Credits
1. Apply knowledge of sequences and series to interpret and solve problems in real and simulated situations	2
2. Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	2
3. Work with a wide range of patterns and transformations of functions and solve related problems	3
4. Construct, analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	4
5. Apply knowledge of statistics and probability to evaluate and communicate findings on life-related problems	5
Total credits	16

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 2**1. Title: Demonstrate understanding of rational and irrational numbers and number systems**

Specific Outcome 1.1: Demonstrate understanding of rational and irrational numbers

Specific Outcome 1.2: Know and understand the relationships among numbers and number systems, and represent numbers in different ways

Specific Outcome 1.3: Apply base 10 number systems on technology to demonstrate understanding of scientific notation and rounding off numbers

2. Title: Use mathematics to investigate and monitor the financial aspects of personal and community life

Specific Outcome 2.1: Use mathematics to plan and control personal and/or household budgets and income and expenditure

Specific Outcome 2.2: Use simple and compound interest to make sense of and define a variety of situations

Specific Outcome 2.3: Investigate various aspects of financial transactions

3. Title: Work with a wide range of patterns and basic functions and solve related problems

Specific Outcome 3.1: Express and justify mathematical generalisations of situations

Specific Outcome 3.2: Express mathematical functions and relationships between variables in terms of numerical, graphical, verbal and symbolic approaches

Specific Outcome 3.3: Analyse and represent mathematical situations and structures using symbolic forms

4. Title: Use mathematical models to represent and deal with problems that arise in real life contexts

Specific Outcome 4.1: Translate contextual problems using mathematical language

Specific Outcome 4.2: Analyse and manipulate representations to arrive at results

Specific Outcome 4.3: Interpret solutions in terms of the problem context

5. Title: Identify, describe, compare, classify, calculate shape and motion in 2 and 3-dimensional shapes in different contexts

Specific Outcome 5.1: Identify, describe, compare and classify geometric figures

Specific Outcome 5.2: Explore transformations of geometric shapes

Specific Outcome 5.3: Calculate the area and perimeter of geometric figures in different contexts by means of measurement and estimation

6. Title: Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life-related problems

Specific Outcome 6.1: Apply various techniques to data in order to establish statistical models for specific purposes

Specific Outcome 6.2: Use equally likely events to explore probability models, make predictions and study problems

Specific Outcome 6.3: Use probability and statistical concepts in solving routine problems from real-world situations and draw conclusions

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 3**1. Title: Demonstrate understanding of numbers and relationships among numbers and number systems, and represent numbers in different ways**

Specific Outcome 1.1: Express rational numbers in decimal notations

Specific Outcome 1.2: Measure and perform error calculations

Specific Outcome 1.3: Convert from decimal number system to binary number system

2. Title: Use mathematics to investigate and monitor the financial aspects of personal, business and national issues

Specific Outcome 2.1: Use mathematics to investigate and analyse, regional and/or national budgets and income and expenditure

Specific Outcome 2.2: Use compound interests to make sense of and define a variety of situations

Specific Outcome 2.3: Use mathematics to debate aspects of national economy

3. Title: Work with a wide range of patterns and basic functions and solve related problems

Specific Outcome 3.1: Express and justify mathematical generalisations of situations

Specific Outcome 3.2: Express mathematical functions and relationships between variables in terms of numerical, graphical, verbal and symbolic approaches

Specific Outcome 3.3: Analyse and represent mathematical situations and structures using symbolic forms

4. Title: Describe, apply, analyse and calculate shape and motion in 2 and 3-dimensional space in different contexts

Specific Outcome 4.1: Describe the conditions that make two geometric shapes congruent and similar

Specific Outcome 4.2: Apply and analyse different transformations of geometric shapes

Specific Outcome 4.3: Calculate areas and perimeter of geometric shapes in different contexts

5. Title: Apply the knowledge of statistics and probability to inform the collection and use of data and procedures in order to investigate life-related problems and interpret the findings

Specific Outcome 5.1: Collect and work with data using various techniques to investigate life-related problems

Specific Outcome 5.2: Use experiments, simulations and equally likely events to explore probability models, make predictions and study problems

Specific Outcome 5.3: Use probability and statistical concepts in problem solving and decision making in real-world situations

UNIT STANDARD TITLES AND SPECIFIC OUTCOMES AT NQF LEVEL 4

1. Title: Apply knowledge of sequences and series to interpret and solve problems in real and simulated situations

Specific Outcome 1.1: Demonstrate understanding of infinite and finite sequences and series

Specific Outcome 1.2: Identify and interpret patterns of divergent and convergent sequences and series

Specific Outcome 1.3: Apply knowledge of sequences and series to perform calculations on saving and interest rates

2. Title: Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues

Specific Outcome 2.1: Use mathematics to plan and manage financial instruments

Specific Outcome 2.2: Use simple and compound interest to make sense of and define a variety of situations

Specific Outcome 2.3: Use mathematics to debate aspects of the national and global economy

3. Title: Work with a wide range of patterns and transformations of functions and solve related problems

Specific Outcome 3.1: Express and justify mathematical generalisations of situations

Specific Outcome 3.2: Express mathematical functions and relationships between variables in terms of numerical, graphical, verbal and symbolic approaches

Specific Outcome 3.3: Analyse and represent mathematical situations and structures using symbolic forms

Specific Outcome 3.4: Use mathematical models to represent and deal with problems that arise in real and abstract contexts

4. Title: Construct, analyse and calculate shape and motion in 2 and 3-dimensional space in different contexts

Specific Outcome 4.1: Construct 2- and 3-dimensional shapes in terms of given criteria

Specific Outcome 4.2: Create and analyse designs that include translated, rotational and reflected 2 dimensional images

Specific Outcome 4.3: Calculate surface areas and volumes of geometric shapes in different contexts

5. Title: Apply knowledge of statistics and probability to evaluate and communicate findings on life-related problems

Specific Outcome 5.1: Investigate statistical reports and critique their findings

Specific Outcome 5.2: Investigate probability distributions and critique and explore models and predictions

Specific Outcome 5.3: Critically interrogate probability and statistical models using distributions in problem solving and decision making in real-world situations