education

Department:
Education
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATES (VOCATIONAL)

ASSESSMENT GUIDELINES

MATHEMATICS
NQF LEVEL 2

September 2007

CONTENTS

SECTION A: PURPOSE OF THE SUBJECT ASSESSMENT GUIDELINES

This document provides the lecturer with guidelines to develop and implement a coherent, integrated assessment system for Mathematics in the National Certificates (Vocational). It must be read with the *National Policy Regarding Further Education and Training Programmes: Approval of the Documents, Policy for the National Certificates (Vocational) Qualifications at Levels 2 to 4 on the National Qualifications Framework (NQF)*. This assessment guideline will be used for National Qualifications Framework Levels 2-4.

This document explains the requirements for the internal and external subject assessment. The lecturer must use this document with the *Subject Guidelines: Mathematics* to prepare for and deliver Mathematics. Lecturers should use a variety of resources and apply a range of assessment skills in the setting, marking and recording of assessment tasks.

SECTION B: ASSESSMENT IN THE NATIONAL CERTIFICATES (VOCATIONAL)

1 ASSESSMENT IN THE NATIONAL CERTIFICATES (VOCATIONAL)

Assessment in the National Certificates (Vocational) is underpinned by the objectives of the National Qualifications Framework (NQF). These objectives are to:

- Create an integrated national framework for learning achievements.
- Facilitate access to and progression within education, training and career paths.
- Enhance the quality of education and training.
- Redress unfair discrimination and past imbalances and thereby accelerate employment opportunities.
- Contribute to the holistic development of the student by addressing:
  - social adjustment and responsibility;
  - moral accountability and ethical work orientation;
  - economic participation; and
  - nation-building.

The principles that drive these objectives are:

- ***Integration***

To adopt a unified approach to education and training that will strengthen the human resources development capacity of the nation.

- ***Relevance***

To be dynamic and responsive to national development needs.

- ***Credibility***

To demonstrate national and international value and recognition of qualification and acquired competencies and skills.

- ***Coherence***

To work within a consistent framework of principles and certification.

- ***Flexibility***

To allow for creativity and resourcefulness when achieving Learning Outcomes, to cater for different learning styles and use a range of assessment methods, instruments and techniques.

- ***Participation***

To enable stakeholders to participate in setting standards and co-ordinating the achievement of the qualification.

- ***Access***

To address barriers to learning at each level to facilitate students' progress.

- ***Progression***

To ensure that the qualification framework permits individuals to move through the levels of the national qualification via different, appropriate combinations of the components of the delivery system.

- ***Portability***

To enable students to transfer credits of qualifications from one learning institution and/or employer to another institution or employer.

- ***Articulation***

To allow for vertical and horizontal mobility in the education system when accredited pre-requisites have been successfully completed.

- ***Recognition of Prior Learning***

To grant credits for a unit of learning following an assessment or if a student possesses the capabilities specified in the outcomes statement.

- ***Validity of assessments***

To ensure assessment covers a broad range of knowledge, skills, values and attitudes (SKVAs) needed to demonstrate applied competency. This is achieved through:

- clearly stating the outcome to be assessed;
- selecting the appropriate or suitable evidence;
- matching the evidence with a compatible or appropriate method of assessment; and
- selecting and constructing an instrument(s) of assessment.

Topics should be assessed individually and then cumulatively with other topics. There should be a final summative internal assessment prior to the external assessment.

- ***Reliability***

To assure assessment practices are consistent so that the same result or judgment is arrived at if the assessment is replicated in the same context. This demands consistency in the interpretation of evidence; therefore, careful monitoring of assessment is vital.

- Cumulative and summative assessments must be weighted more than single topic tests for the internal mark.
- There should be at least one standardised or norm test in each trimester.
- All standardised or norm tests must be moderated by a subject specialist.

- ***Fairness and transparency***

To verify that no assessment process or method(s) hinders or unfairly advantages any student. The following could constitute unfairness in assessment:

- Inequality of opportunities, resources or teaching and learning approaches
- Bias based on ethnicity, race, gender, age, disability or social class
- Lack of clarity regarding Learning Outcome being assessed
- Comparison of students' work with other students, based on learning styles and language

Assessment in Mathematics must take into consideration that the process or method carries more weight than the final answer.

- ***Practicability and cost-effectiveness***

To integrate assessment practices within an outcomes-based education and training system and strive for cost and time-effective assessment.

2 ASSESSMENT FRAMEWORK FOR VOCATIONAL QUALIFICATIONS

The assessment structure for the National Certificates (Vocational) qualification is as follows:

2.1 Internal continuous assessment (ICASS)

Knowledge, skills values, and attitudes (SKVAs) are assessed throughout the year using assessment instruments such as projects, tests, assignments, investigations, role-play and case studies. The internal continuous assessment (ICASS) practical component is undertaken in a real workplace, a workshop or a

"Structured Environment". This component is moderated internally and externally quality assured by Umalusi. All internal continuous assessment (ICASS) evidence is kept in a Portfolio of Evidence (PoE) and must be readily available for monitoring, moderation and verification purposes.

2.2 External summative assessment (ESASS)

The external summative assessment is either a single or a set of written papers set to the requirements of the Subject Learning Outcomes. The Department of Education administers the theoretical component according to relevant assessment policies.

External summative assessments will be conducted annually between October and December, with provision made for supplementary sittings.

3 MODERATION OF ASSESSMENT

3.1 Internal moderation

Assessment must be moderated according to the internal moderation policy of the Further Education and Training (FET) college. Internal college moderation is a continuous process. The moderator's involvement starts with the planning of assessment methods and instruments and follows with continuous collaboration with and support to the assessors. Internal moderation creates common understanding of Assessment Standards and maintains these across vocational programmes.

3.2 External moderation

External moderation is conducted by the Department of Education, Umalusi and, where relevant, an Education and Training Quality Assurance (ETQA) body according to South African Qualifications Authority (SAQA) and Umalusi standards and requirements.

The external moderator:

- monitors and evaluates the standard of all summative assessments;
- maintains standards by exercising appropriate influence and control over assessors;
- ensures proper procedures are followed;
- ensures summative integrated assessments are correctly administered;
- observes a minimum sample of ten (10) to twenty-five (25) percent of summative assessments;
- gives written feedback to the relevant quality assurer; and
- moderates in case of a dispute between an assessor and a student.

Policy on inclusive education requires that assessment procedures for students who experience barriers to learning be customised and supported to enable these students to achieve their maximum potential.

4 PERIOD OF VALIDITY OF INTERNAL CONTINUOUS ASSESSMENT (ICASS)

The period of validity of the internal continuous assessment mark is determined by the *National Policy on the Conduct, Administration and Management of the Assessment of the National Certificates (Vocational).*

The internal continuous assessment (ICASS) must be re-submitted with each examination enrolment for which it constitutes a component.

5 ASSESSOR REQUIREMENTS

Assessors must be subject specialists and should ideally be declared competent against the standards set by the ETDP SETA. If the lecturer conducting the assessments has not been declared a competent assessor, an assessor who has been declared competent may be appointed to oversee the assessment process to ensure the quality and integrity of assessments.

6 TYPES OF ASSESSMENT

Assessment benefits the student and the lecturer. It informs students about their progress and helps lecturers make informed decisions at different stages of the learning process. Depending on the intended purpose, different types of assessment can be used.

6.1 Baseline assessment

At the beginning of a level or learning experience, baseline assessment establishes the knowledge, skills, values and attitudes (SKVAs) that students bring to the classroom. This knowledge assists lecturers to plan learning programmes and learning activities.

6.2 Diagnostic assessment

This assessment diagnoses the nature and causes of learning barriers experienced by specific students. It is followed by guidance, appropriate support and intervention strategies. This type of assessment is useful to make referrals for students requiring specialist help.

6.3 Formative assessment

This assessment monitors and supports teaching and learning. It determines student strengths and weaknesses and provides feedback on progress. It determines if a student is ready for summative assessment.

6.4 Summative assessment

This type of assessment gives an overall picture of student progress at a given time. It determines whether the student is sufficiently competent to progress to the next level.

7 PLANNING ASSESSMENT

An assessment plan should cover three main processes:

7.1 Collecting evidence

The assessment plan indicates which Subject Outcomes and Assessment Standards will be assessed, what assessment method or activity will be used and when this assessment will be conducted.

7.2 Recording

Recording refers to the assessment instruments or tools with which the assessment will be captured or recorded. Therefore, appropriate assessment instruments must be developed or adapted.

7.3 Reporting

All the evidence is put together in a report to deliver a decision for the subject.

8 METHODS OF ASSESSMENT

Methods of assessment refer to who carries out the assessment and includes lecturer assessment, self-assessment, peer assessment and group assessment.

LECTURER ASSESSMENT	The lecturer assesses students' performance against given criteria in different contexts, such as individual work, group work, etc.
SELF-ASSESSMENT	Students assess their own performance against given criteria in different contexts, such as individual work, group work, etc.
PEER ASSESSMENT	Students assess another student or group of students' performance against given criteria in different contexts, such as individual work, group work, etc.
GROUP ASSESSMENT	Students assess the individual performance of other students within a group or the overall performance of a group of students against given criteria.

9 INSTRUMENTS AND TOOLS FOR COLLECTING EVIDENCE

All evidence collected for assessment purposes is kept or recorded in the student's Portfolio of Evidence (PoE).

The following table summarises a variety of methods and instruments for collecting evidence. A method and instrument is chosen to give students ample opportunity to demonstrate the Subject Outcome has been attained. This will only be possible if the chosen methods and instruments are appropriate for the target group and the Specific Outcome being assessed.

	METHODS FOR COLLECTING EVIDENCE		
	Observation-based (Less structured)	**Task-based** (Structured)	**Test-based** (More structured)
Assessment instruments	• Observation • Class questions • Lecturer, student, parent discussions	• Assignments or tasks • Projects • Investigations or research • Case studies • Practical exercises • Demonstrations • Role-play • Interviews	• Examinations • Class tests • Practical examinations • Oral tests • Open-book tests
Assessment tools	• Observation sheets • Lecturer's notes • Comments	• Checklists • Rating scales • Rubrics	• Marks (e.g. %) • Rating scales (1-7)
Evidence	• Focus on individual students • Subjective evidence based on lecturer observations and impressions	**Open middle**: Students produce the same evidence but in different ways. **Open end**: Students use same process to achieve different results.	Students answer the same questions in the same way, within the same time.

10 TOOLS FOR ASSESSING STUDENT PERFORMANCE

Rating scales are marking systems where a symbol (such as 1 to 7) or a mark (such as 5/10 or 50%) is defined in detail. The detail is as important as the coded score. Traditional marking, assessment and evaluation mostly used rating scales without details such as what was right or wrong, weak or strong, etc.

Task lists and **checklists** show the student what needs to be done. They consist of short statements describing the expected performance in a particular task. The statements on the checklist can be ticked off when the student has adequately achieved the criterion. Checklists and task lists are useful in peer or group assessment activities.

Rubrics are a hierarchy (graded levels) of criteria with benchmarks that describe the minimum level of acceptable performance or achievement for each criterion. It is a different way of assessment and cannot be compared to tests. Each criterion described in the rubric must be assessed separately. Mainly, two types of rubrics, namely holistic and analytical, are used.

11 SELECTING AND/OR DESIGNING RECORDING AND REPORTING SYSTEMS

The selection or design of recording and reporting systems depends on the purpose of recording and reporting student achievement. **Why** particular information is recorded and **how** it is recorded determine which instrument will be used.

Computer-based systems, for example spreadsheets, are cost and time effective. The recording system should be user-friendly and information should be easily accessed and retrieved.

12 COMPETENCE DESCRIPTIONS

All assessment should award marks to evaluate specific assessment tasks. However, marks should be awarded against rubrics and not simply be a total of ticks for right answers. Rubrics should explain the competence level descriptors for the skills, knowledge, values and attitudes (SKVAs) a student must demonstrate to achieve each level of the rating scale.

When lecturers or assessors prepare an assessment task or question, they must ensure that the task or question addresses an aspect of a Subject Outcome. The relevant Assessment Standard must be used to create the rubric to assess the task or question. The descriptions must clearly indicate the minimum level of attainment for each category on the rating scale.

13 STRATEGIES FOR COLLECTING EVIDENCE

A number of different assessment instruments may be used to collect and record evidence. Examples of instruments that can be (adapted and) used in the classroom include:

13.1 Record sheets

The lecturer observes students working in a group. These observations are recorded in a summary table at the end of each project. The lecturer can design a record sheet to observe students' interactive and problem-solving skills, attitudes towards group work and involvement in a group activity.

13.2 Checklists

Checklists should have clear categories to ensure that the objectives are effectively met. The categories should describe how the activities are evaluated and against what criteria they are evaluated. Space for comments is essential.

SECTION C: ASSESSMENT IN MATHEMATICS

1 SCHEDULE OF ASSESSMENT

At NQF levels 2, 3 and 4, lecturers will conduct assessments as well as develop a schedule of formal assessments that will be undertaken in the year. All three levels also have an external examination that accounts for 75 percent of the total mark. The marks allocated to assessment tasks completed during the year, kept or recorded in a Portfolio of Evidence (PoE) account for the other 25 percent.

The Portfolio of Evidence (PoE) and the external assessment include practical and written components. The practical assessment in Mathematics, must, where necessary, be subjected to external moderation by Umalusi or an appropriate Education and Training Quality Assurance (ETQA) body, appointed by the Umalusi Council in terms of Section 28(2) of the *General and Further Education and Training Quality Assurance Act, 2001 (Act No. 58 of 2001).*

2 RECORDING AND REPORTING

Mathematics is assessed according to seven levels of competence. The level descriptions are explained in the following table.

Scale of achievement for the Fundamental component

RATING CODE	RATING	MARKS (%)
7	Outstanding	80 – 100
6	Meritorious	70 – 79
5	Substantial	60 – 69
4	Adequate	50 – 59
3	Moderate	40 – 49
2	Elementary	30 – 39
1	Not achieved	0 – 29

The programme of assessment should be recorded in the Lecturer's Portfolio of Assessment for each subject. The following should at least be included in the Lecturer's Assessment Portfolio:

- A contents page
- The formal schedule of assessment
- The requirements for each assessment task
- The tools used for each assessment task
- Recording instrument(s) for each assessment task
- A mark sheet and report for each assessment task

The college must standardise these documents.

The student's Portfolio of Evidence (PoE) must at least include:

- A contents page
- The assessment tasks according to the assessment schedule
- The assessment tools or instruments for the task
- A record of the marks (and comments) achieved for each task

Where tasks cannot be contained as evidence in the Portfolio of Evidence (PoE), its exact location must be recorded and it must be readily available for moderation purposes.

The following internal assessment units guide the assessment of Mathematics.

NUMBER OF UNITS	ASSESSMENT	COVERAGE
3	Formal written tests	One or more completed topics
1	Internal written examination	All completed topics
4	Practical assessment	The related Subject Outcomes, for example: 1. Analysis demographics of the community to test applicability of a new product. 2. Work out a personal budget and find out where savings can be best invested. 3. Construct at least three models of solids and find out the total surface area and volume. 4. Choose a national flag of a country or a favourite sport flag and discuss all the axis of symmetry, reflection and transformation that can occur in the flag

ASSESSMENT OF MATHEMATICS

LEVEL 2

3 INTERNAL ASSESSMENT OF SUBJECT OUTCOMES IN MATHEMATICS – LEVEL 2

Topic 1: Numbers

SUBJECT OUTCOME		
Use computational tools and strategies and make estimates and approximations.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Computational tools are used efficiently and correctly and solutions obtained are verified in terms of the context or problem. • Algorithms are executed appropriately in calculations. • Measurements are reported or recorded in accordance with the degree of accuracy of the instrument.	• Use a scientific calculator competently and efficiently. • Execute algorithms appropriately in calculations. • Take and record measurements to the degree of accuracy of the instrument.	• Practical assignments with calculator • Test

SUBJECT OUTCOME		
Demonstrate understanding of numbers and relationships among numbers and number systems and represent numbers in different ways.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Rational and irrational numbers are rounded to an appropriate degree of accuracy. • Quantities are represented using rational and irrational numbers as appropriate to the context. • Expressions are simplified using the laws of exponents for integral exponents. • A point between any two integers, where any simple surd lies, is established. • Notation for expressing rational and irrational numbers is consistent with mathematical conventions. • Methods of calculation and approximation are appropriate to the problem types.	• Identify rational numbers and convert between terminating or recurring decimals to the form $\frac{a}{b}; a, b \in Z; b \neq 0$. • Know, understand and apply the laws of exponents. • Convert surds into rational forms. • Identify and work with arithmetic progressions, sequences and series. • Manipulate and apply simple and compound interest formula.	• Practical assignments with calculator • Test

Topic 2: Functions

SUBJECT OUTCOME		
Work with a range of functions and patterns and solve problems.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Algebraic and trigonometric functions are sketched and interpreted to represent verbal, numerical and symbolic information in a graphical context.	▪ Sketch and interpret linear, quadratic functions centred on the y-axis, inverse, exponential and the basic trigonometric functions of sine, cosine and tangent functions. The graphs referred to are: $y = ax + q; y = ax^2 + q; y = \frac{a}{x} + q; y = ab^x + q, b\rangle 0; y = a\sin x + q; y = a\cos x + q,$ $y = a\tan x + q$ ▪ Convert between numerical, verbal, symbolic and graphical representations of information. • Investigate and generalise the impact of a and q in the functions above**.**	• Practice exercises • Assignments • Tests

SUBJECT OUTCOME		
Manipulate algebraic expressions.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Binomials are multiplied by trinomials. • Trinomials are factorised. • Algebraic fractions with monomial denominators are simplified.	• Find products of binomials with trinomials. • Factorise by grouping and factorise trinomials. • Simplify fractions with monomial denominators.	• Practice exercises • Assignments • Tests

SUBJECT OUTCOME		
Solve algebraic equations.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Linear equations are solved. • Quadratic equations are solved by factorisation. • Exponential equations like $ka^{x+p} = m$ are solved by trial and error. • Linear inequalities in one variable are solved. • Linear equations are solved simultaneously using numerical, algebraic and graphical methods.	• Solve linear equations. • Solve quadratic equations by factorisation. • Solve exponential equations like $ka^{x+p} = m$ by trial and error. • Solve inequalities in one variable graphically. • Solve equations simultaneously by numerical, algebraic and graphical methods.	• Practical exercises • Assignments • Tests

SUBJECT OUTCOME		
Investigate the average rate of change of a function between two values of the independent variable.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• An intuitive understanding of average rate of change over different intervals is demonstrated.	• Investigate the gradient between two points on a curve with specific reference to linear functions. • Investigate the gradient of a curve at a specific point.	• Practical exercises • Tests • Assignments

Topic 3: Space, Shape and Orientation

SUBJECT OUTCOME		
Describe, represent, analyse and explain properties of shapes in two- and three-dimensional space with justification.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• The effect on the volume and surface area of right prisms and cylinders, where one or more dimensions are multiplied by a factor *k,* is investigated. • Formulas for calculating volume and surface area of right prisms and cylinders are generalised.	• Investigate the effect on the volume and surface area of right prisms and cylinders, where one or more dimensions are multiplied by a constant factor *k*. • Investigate and generalise formula for calculating the volume and surface area of right prisms and cylinders.	• Project • Models • Assignments • Tests

SUBJECT OUTCOME		
Describe and represent the properties of geometric shapes.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Polygons are investigated through Euclidean, co-ordinate and transformation geometry. • Properties of different polygons are generalised. • Alternate definitions of polygons are exposed.	• Investigate polygons through Euclidean, co-ordinate and/or transformation geometry. • Generalise the properties of different polygons. • Expose alternate definitions of polygons.	• Draw and cut out exercises • Theory tests

SUBJECT OUTCOME		
Represent geometric figures on a Cartesian co-ordinate system.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Points, lines and polygons are plotted on a Cartesian plane. • Distance between two points is calculated. • The gradient of a line segment joining two points is calculated. • The midpoint of a line segment joining two points on a graph is calculated. • Slope and midpoint from a graphical representation of a straight line is estimated.	• Plot points, lines and polygons on a Cartesian plane. • Calculate the distance between two points. • Calculate the gradient of a line segment joining two points. • Calculate the midpoint of a line segment joining two points on a graph. • Estimate distance, slope and midpoint from a graphical representation of a straight line.	• Practical exercises • Assignments • Tests

SUBJECT OUTCOME		
Solve problems by constructing and interpreting geometrical and trigonometric models.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Transformation geometry is used to translate *p* units horizontally and *q* units vertically. • Reflections of graphs about x-axis, y-axis and line y = x are performed by transformation geometry. • Similarity of triangles and proportionality of sides are introduced. • Scale drawings and building plans are made familiar using geometry and trigonometry. • The definitions of trigonometric functions of sinθ, cosθ and tanθ are learnt and used. • The functions of sin, cos and tan are sketched and their periodicity is discussed. • The history and development of geometry and trigonometry in various cultures is researched.	• Use transformation geometry to translate *p* units horizontally and *q* units vertically. • Use transformation geometry to do reflections of graphs about the x-axis, the y-axis and about the line y = x. • Introduce the similarity of triangles and proportion of sides of triangles. • Be familiar with scale drawings and building plans and read what is indicated by them from a geometric and trigonometric perspective. • Know and use the definitions of sinθ, cosθ and tanθ. • Sketch the sin, cos and tan functions and discuss their periodicity. • Research the history of the development of geometry and trigonometry in various cultures.	• Research project • Practical exercises • Assignments • Tests

Topic 4: Statistical and Probability Models

SUBJECT OUTCOME		
Collect, organise and interpret univariate numerical data.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Measures of central tendency (mean, median and mode) of grouped and ungrouped data are determined. • Measures of dispersion, for example range, are determined. • Errors in measurement of data are calculated. • Sources of bias in the data and data collection are detected and reported on.	• Calculate measures of central tendency, namely mean, median and mode, of grouped and ungrouped data. • Calculate measures of dispersion including range, percentiles, quartiles, interquartile and semi-interquartile range. • Calculate errors in measurement of data. • Detect and report on sources of bias in the data and data collection.	• Practical project • Demonstration

SUBJECT OUTCOME		
Represent data effectively and appropriately.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Bar and compound bar graphs, histograms (grouped data), frequency polygons, pie charts, line and broken line graphs are used appropriately to represent data.	• Create and interpret bar and compound bar graphs. • Create and interpret histograms of grouped data. • Create and interpret frequency polygons. • Create and interpret pie charts. • Create and interpret line and broken line graphs.	• Research project

Topic 5: Financial Mathematics

SUBJECT OUTCOME		
Use Mathematics to plan and control personal and household budgets, income and expenditure.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Income and expenditure statements are drawn up and plans for projected income and expenditure are discussed. • Calculations are performed using computational tools efficiently and correctly and solutions are verified in terms of context. • Personal and/or household budgets are drawn up. • Actual income and expenditure over a period are recorded and compared to projected budgets. • Variances and methods for financial control are identified, discussed and explained.	• Draw up an income/expenditure sheet describing plans for projected income and expenditure. • Do calculations using computational tools efficiently and correctly and verify solutions in terms of the context. • Draw up a personal and/or household budget. • Record actual income and expenditure over a period and compare to the projected budget. • Identify, discuss and explain variances and methods for financial control.	• Projects • Assignments • Tests

SUBJECT OUTCOME		
Use simple and compound interest to explain and define a variety of situations.		
ASSESSMENT STANDARDS	**LEARNING OUTCOMES**	**ASSESSMENT TASKS OR ACTIVITIES**
• Simple and compound interest are differentiated and the advantages and disadvantages of specific situations are extrapolated. • Simple and compound interest are calculated at specific rates over different periods. • Calculations are performed using computational tools efficiently and correctly and solutions are verified in terms of context. • Solutions to calculations are used to define changes over a period.	• Differentiate between simple and compound interest and extrapolate the advantages and disadvantages of each in specific situations. • Calculate simple and compound interest over different periods at specific rates. • Do calculations using computational tools efficiently and correctly and verify solutions in terms of the context. • Use solutions to calculations effectively to define the changes that occur over a period.	• Projects • Assignments • Tests

4 SPECIFICATIONS FOR THE EXTERNAL ASSESSMENT IN MATHEMATICS – LEVEL 2

A National Examination is conducted in October or November each year by means of a paper(s) set and moderated externally. The examination will be structured as follows:

	KNOWLEDGE AND COMPREHENSION	APPLICATION	ANALYSIS, SYNTHESIS AND EVALUATION
LEVEL 2	25%	50%	25%