SCOTTISH QUALIFICATIONS AUTHORITY

National Unit Specification: general information

UNIT Mathematics 1 (Intermediate 1)

NUMBER D321 10

COURSE Mathematics (Intermediate 1)

SUMMARY

This unit seeks to provide practice in numerical skills and an introduction to geometry and algebra. It is a mandatory unit of the Mathematics Intermediate 1 course.

OUTCOMES

1 Perform basic calculations.
2 Use basic geometric properties.
3 Evaluate expressions and formulae.
4 Perform calculations in everyday contexts.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates will normally be expected to have attained one of the following:

- Standard Grade Mathematics Foundation award
- *Using Mathematics 3 (Acc 3)* unit
- equivalent

Administrative Information

Superclass: KC

Publication date: November 1999

Source: Scottish Qualifications Authority

Version: 03

National Unit Specification: general information (cont)

UNIT Mathematics 1 (Intermediate 1)

CREDIT VALUE

1 credit at Intermediate 1.

CORE SKILLS

This unit gives automatic certification of the following:

Complete core skills for the unit	None
Core skills components for the unit	Using Number Int 1

Additional information about core skills is published *in Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

National Unit Specification: statement of standards

UNIT Mathematics 1 (Intermediate 1)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to the Scottish Qualifications Authority.

OUTCOME 1

Perform basic calculations.

Performance criteria

(a) Find a percentage of a quantity.
(b) Round calculations to a given degree of accuracy.
(c) Solve simple problems on direct proportion.

OUTCOME 2

Use basic geometric properties.

Performance criteria

(a) Find the area of a simple composite shape.
(b) Find the volume of a cube and a cuboid.
(c) Find the area and the circumference of a circle.

OUTCOME 3

Evaluate expressions and formulae.

Performance criteria

(a) Evaluate an expression.
(b) Evaluate a formula expressed in words.
(c) Evaluate a simple formula expressed in symbols.

OUTCOME 4

Perform calculations in everyday contexts.

Performance criteria

(a) Carry out calculations involving money in appropriate social contexts.
(b) Use a table of exchange rates to convert from pounds sterling to foreign currency.

National Unit Specification: statement of standards (cont)

UNIT Mathematics 1 (Intermediate 1)

Evidence requirements

Although there are various ways of demonstrating achievement of the outcomes, evidence would normally be presented in the form of a closed book test under controlled conditions. Examples of such tests are contained in the National Assessment Bank.

In assessments, candidates are required to show their working in carrying out algorithms and processes.

National Unit Specification: support notes

UNIT Mathematics 1 (Intermediate 1)

This part of the unit specification is offered as guidance. The support notes are not mandatory.

While the time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

Each mathematics unit at Intermediate 1 level aims to build upon and extend candidates' mathematical knowledge and skills. Within this unit, basic calculations in number and money introduced at Access 3 level are extended within Outcome 1 and applied, in Outcome 4, to calculations set in a wide variety of contexts which are relevant to the everyday needs of candidates, such as hire purchase, wages, etc.

Outcome 2 extends the work on area at Access 3 level and introduces the formulae for circumference and area of the circle.

Outcome 3 introduces the use of symbols in simple formulae and provides a basis for the work on formulae contained in both *Mathematics 3 (Int 1)* and *Applications of Mathematics (Int 1).*

The recommended content for this unit can be found in the course specification. The *detailed content* section provides illustrative examples to indicate the depth of treatment required to achieve a unit pass and advice on teaching approaches.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be encouraged to make use of their skills of mental calculation, to make efficient use of calculators and to apply the strategy of checking. Numerical checking or checking a result against the context in which it is set is an integral part of every mathematical process. In many instances, the checking can be done mentally, but on occasions, to stress its importance, there should be evidence of a checking procedure within the calculation. There are various checking procedures which could be used:

- relating to a context - 'How sensible is my answer?'
- estimate followed by a repeated calculation
- calculation in a different order

Further advice on learning and teaching approaches is contained within the Subject Guide for Mathematics.

National Unit Specification: support notes (cont)

UNIT Mathematics 1 (Intermediate 1)

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

The assessment for this unit will normally be in the form of a closed book test. Such tests should be carried out under supervision and it is recommended that candidates attempt an assessment designed to assess all the outcomes within the unit. Successful achievement of the unit is demonstrated by candidates achieving the thresholds of attainment specified for all the outcomes in the unit. Candidates who fail to achieve the threshold(s) of attainment need only be retested on the outcome(s) where the outcome threshold score has not been attained. Further advice on assessment and retesting is contained within the National Assessment Bank.

It is expected that candidates will be able to achieve the algebraic performance criteria in the unit without the use of computer software or sophisticated calculators.

In assessments, candidates are required to show their working in carrying out algorithms and processes.

SPECIAL NEEDS

This unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements for Candidates with Special Needs/Candidates whose First Language is not English* (SQA, 1998).