

Functional Mathematics SAS Guide

This SAS guide relates to courses developed from the study area specification *Functional Mathematics (2006)*.

Study Area Specification

Functional Mathematics

Approaches

Approach B: Vocational Learning (VL) Strand

Focus of Study Area Specification

The study area specification *Functional Mathematics* has been designed for young adults in the senior phase of learning who have for many reasons not become functionally numerate to cope in and with society. They may have experienced little success in mathematics or may have social and cultural backgrounds and experiences that have affected development of their numeracy.

The study area specifications *Functional Mathematics* and *Prevocational Mathematics* are companion subjects because *Functional Mathematics* may serve as a bridging course to *Prevocational Mathematics*. These two study area specifications aim to build student confidence and success with mathematics and both have clear links with the Years 1 to 10 Mathematics Key Learning Area (KLA) syllabus in that they aim to develop students' abilities in thinking, reasoning, and working mathematically. They are specifically designed for young adults in the senior phase of learning because they use contexts that interest these students and which are relevant to their stage of life.¹

The study area specification *Functional Mathematics* is designed to reflect the National Reporting System (NRS) indicators of competence at levels 1 and 2 in numeracy.²

Overview of approaches The study area specification *Functional Mathematics (2006)* is designed to enable students to experience mathematics in a supportive and inclusive social context. It has been developed for students in Years 11 and 12 who have particular learning needs, so it is appropriate that students undertaking the course have access to learning support. It enables one approach only:

¹ See appendix 1 for details of the relationship between the two SASs.

² *National Reporting System (NRS)* Australian Government Department of Education, Science and Training.



Approach B: Vocational learning (VL) strand

A course of study is based on five topics, grouped into three categories according to the purposes and functions of using mathematics in various contexts.

These categories are:

- *Interpreting society*: interpreting numerical and graphical information of relevance to self, work or the community.
- *Personal organisation*: numeracy requirements for personal matters involving money, time and travel.
- *Practical purposes*: the physical world in terms of designing, making and measuring. The five topics are:

Topic 1: Mathematics for interpreting society: number (study area core)

Topic 2: Mathematics for interpreting society: data

Topic 3: Mathematics for personal organisation: location and time

Topic 4: Mathematics for practical purposes: measurement

Topic 5: Mathematics for personal organisation: finance

Students should study the topics in combination rather than separately, and in contexts meaningful to them. Topics may be revisited in different contexts throughout the course.

Nature of assessment An exit level of achievement will be awarded at the end of the program of study for *Functional Mathematics*. The assessment criteria on which students will be judged are based on the general objectives of the course: *knowing*, *applying* and *communicating*.

For students to demonstrate their ability in each of the three criteria, tasks will provide opportunities for students to:

- use mathematical concepts and use given mathematical rules, operations and procedures to carry out simple, familiar tasks
- interpret familiar and predictable contexts, recognise relevant mathematics, and select strategies to carry out tasks
- use everyday language and some mathematical symbols to respond to tasks in familiar and predictable contexts.

Assessment opportunities arise from students' learning experiences. Assessment techniques should be selected to suit the context in which the student is learning and extend beyond examining students' ability to find the right answer for a computational exercise. Tasks assess the many additional skills and knowledge areas, such as acting upon numerical information, applying mathematical reasoning and solving realistic problems.

Functional Mathematics emphasises contextualised assessment of a broad range of skills and reasoning processes and is not examination-based. It is strongly recommended that tests are kept to a minimum or not used at all. If tests are used, they should be very short in duration, 'open book' in nature and help must be freely available to students.

Opportunities for students In *Functional Mathematics*, importance is placed on supporting and facilitating learning through creating an environment that responds to students as they make sense of the world around them. Learning experiences are hands-on, concrete and use relevant real-life situations to derive mathematical meaning.

Students have opportunities for negotiated learning and assessment, individual goal setting, and developing confidence and self-concept. They are involved in learning experiences that allow

them to develop their interpersonal skills, and to acquire knowledge and skills related to future life and further training and employment.

Where students are successful in their studies of *Functional Mathematics* and have completed at least one full semester of the subject, it may be beneficial for these students to undertake the *Pre-vocational Mathematics* study area specification. Decisions of this nature need to be made by the school, taking into account school resources, student achievements and needs.

How parents can help

Parents and guardians can help students by:

- Reading the study area specification *Functional Mathematics (2006)*, on which schools base their programs of study
- Reading the school program of study and discussing this with the teacher
- Showing an interest in the area being studied by discussing the activities and relevant issues with the student
- Discussing the student's progress with the student and with relevant school personnel.