

Mathematics

National 4

Purpose and aims of the Course

Mathematics is important in everyday life, allowing us to make sense of the world around us and to manage our lives. Using mathematics enables us to model real-life situations and make connections and informed predictions. It equips us with the skills we need to interpret and analyse information, simplify and solve problems, assess risk and make informed decisions.

The Course aims to:

- ◆ motivate and challenge learners by enabling them to select and apply straightforward mathematical skills in a variety of mathematical and real-life situations
- ◆ develop confidence in the subject and a positive attitude towards further study in mathematics
- ◆ enable the use of numerical data and abstract terms and develop the idea of generalisation
- ◆ allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development
- ◆ develop the learner's skills in using mathematical language and to explore straightforward mathematical ideas
- ◆ develop skills relevant to learning, life and work in an engaging and enjoyable way

Recommended entry

Learners would normally be expected to have attained the skills, knowledge and understanding required to achieve National 3 Lifeskills Mathematics.

Course structure

The course consists of three units:

Expressions and Formulae: The general aim of this Unit is to develop skills linked to straightforward mathematical expressions and formulae. These include the manipulation of abstract terms, the simplification of expressions and the evaluation of formulae. The Outcomes cover aspects of algebra, geometry, statistics and reasoning.

Relationships: The general aim of this Unit is to develop skills linked to straightforward mathematical relationships. These include solving equations, understanding graphs and working with trigonometric ratios. The Outcomes cover aspects of algebra, geometry, trigonometry, statistics and reasoning.

Numeracy: The general aim of this Unit is to develop learners' numerical and information handling skills to solve straightforward, real-life problems involving number, money, time and measurement. As learners tackle real-life problems, they will decide what numeracy skills to use and how to apply these skills to an appropriate level of accuracy. Learners will also interpret graphical data and use their knowledge and understanding of probability to identify solutions to straightforward real-life problems involving money, time and measurement. Learners will use their solutions to make and explain decisions.

Unit assessment: All Units are internally assessed on a pass/fail basis within the department.

Mathematics Test: This is the Added Value Unit of the National 4 Mathematics Course. The general aim of this Unit is to enable the learner to provide evidence of added value for the National 4 Mathematics Course through the successful completion of a test which will allow the learner to demonstrate breadth and challenge.

To achieve the National 4 Mathematics Course, learners must pass all of the required Units, including the Added Value Unit. National 4 Courses are not graded.

Progression

Learners who successfully complete this course could progress to National 5 Mathematics.