

# Mathematics

## National 5

### 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 mathematical techniques in a variety of mathematical and real-life situations
- ◆ develop confidence in the subject and a positive attitude towards further study in mathematics
- ◆ develop skills in manipulation of abstract terms in order to solve problems and to generalise
- ◆ 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 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 4 Mathematics.

This would be a suitable Course for learners who can respond to challenging situations and who can apply what they have learned in new and unfamiliar situations.

### Course structure

The course consists of three units:

**Expressions and Formulae:** The general aim of this Unit is to develop skills linked to 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 number, algebra, geometry and reasoning.

**Relationships:** The general aim of this Unit is to develop skills linked to mathematical relationships. These include solving and manipulating equations, working with graphs and carrying out calculations on the lengths and angles of shapes. The Outcomes cover aspects of algebra, geometry, trigonometry and reasoning.

**Applications:** The general aim of this Unit is to develop skills linked to applications of mathematics. These include using trigonometry, geometry, number processes and statistics within real-life contexts. The Outcomes cover aspects of these skills and also skills in reasoning.

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

**Course assessment:** The learner will draw on and apply the skills they have learned during the Course. This will be assessed within an examination, requiring application of the breadth of knowledge and skills acquired from across the Units of the Course, sometimes in integrated ways.

### Progression

Learners who successfully complete this course could progress to Higher Mathematics.