

Mathematics

Higher

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 situations
- ◆ develop confidence in the subject and a positive attitude towards further study in mathematics and the use of mathematics in employment
- ◆ deliver in-depth study of mathematical concepts and the ways in which mathematics describes our world
- ◆ allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development
- ◆ deepen the learner's skills in using mathematical language and exploring advanced mathematical ideas

Recommended entry

This Course is suitable for learners who are secure in their attainment of the National 5 Mathematics Course or an equivalent qualification.

Course structure

The course consists of three units:

Expressions and Functions: The general aim of this Unit is to develop knowledge and skills that involve the manipulation of expressions, the use of vectors and the study of mathematical functions. The Outcomes cover aspects of algebra, geometry and trigonometry, and also skills in mathematical reasoning and modelling.

Relationships and Calculus: The general aim of this Unit is to develop knowledge and skills that involve solving equations and to introduce both differential calculus and integral calculus. The Outcomes cover aspects of algebra, trigonometry, calculus, and also skills in mathematical reasoning and modelling.

Applications: The general aim of this Unit is to develop knowledge and skills that involve geometric applications, applications of sequences and applications of calculus. The Outcomes cover aspects of algebra, geometry, calculus, and also skills in mathematical reasoning and modelling.

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 demonstration 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 Advanced Higher Mathematics.