MATHEMATICS

AWARD RECEIVED - ADVANCED HIGHER MATHEMATICS

ENTRY LEVEL

This is at the discretion of the school, but you would normally be expected to have attained Higher Mathematic, preferably Grade A or B.

COURSE CONTENT

These units build on the mathematical knowledge and skills you have gained at Higher level.

Mathematics 1: Methods in Algebra and Calculus

Content of the unit includes

- applying algebraic skills to partial fractions
- applying calculus skills through techniques of differentiation
- applying calculus skills through techniques of integration
- applying calculus skills to solving differential equations

Mathematics 2: Applications of Algebra and Calculus

Content of the unit includes

- applying algebraic skills to the binomial theorem and to complex numbers
- applying algebraic skills to sequences and series
- applying algebraic skills to summation and mathematical proof
- applying algebraic and calculus skills to problems

Mathematics 3: Geometry, Proof and Systems of Equations

Content of the unit include

- applying algebraic skills to matrices and systems of equations
- applying algebraic and geometric skills to vectors
- applying geometric skills to complex numbers
- applying algebraic skills to number theory
- applying algebraic and geometric skills to methods of proof

ASSESSMENT

This course is assessed by an external examination, set and marked by the SQA.

The external examination is a single, calculator-allowed paper of 100 marks.
This exam lasts for 3 hours.

HOMEWORK
Homework from the course textbooks is set on a regular basis to consolidate the work covered in class.
One extended homework exercise is set at end of each topic.

PROGRESSION
HNC/HND/Degree or Employment

The mathematics department also offer Advanced Higher Mathematics of Mechanics.
To study this course, you must also choose to study Advanced Higher Mathematics and Advanced Higher Physics.