

Mathematics – Advanced Higher

Award Received

Advanced Higher Mathematics (SCQF Level 7)

Entry Level: What do I need in order to do it?

Entry to this course is at the discretion of the school. However, pupils would normally be expected to have gained the appropriate level of entry qualification and attained the skills and knowledge required, as follows:

- Higher with A or high B pass allows entry to Advanced Higher.
- Higher with C could be considered if there is a teacher recommendation to support entry.

Course Content: What will I learn?

The course is split arbitrarily into three Units:

Unit 1 Partial Fractions, Binomial Theorem, Differentiation, Functions and Curve Sketching.

Unit 2 Integration, Complex Numbers, Sequences and Series, Sigma notation and Power Series, Proof by Mathematical Induction, Differential Equations.

Unit 3 Proof, Matrices, Systems of Linear equations, Vectors, Number Theory.

Teaching Methods: What will I do?

Teaching is primarily through lecturing and practice. Much of the practice is done as independent study outside of lessons and it is worth pointing out that this is significant in quantity.

Sometimes the learning is 'flipped'; students work on part of a topic independently and then a tutorial is held to discuss what has been learned. Both of these teaching strategies are common-place at university and so the course is a good preparation for that step, should you choose to take it.

Assessment: How will I be assessed?

The course consists of 3 Unit assessments and a final external exam. The final exam, covering the whole course, consists of two papers: a non-calculator and a calculator paper. The exam is externally assessed by the SQA.

Homework.

Sometimes a small amount of work is set to be completed for the next lesson, but in addition there weekly Assignments set. These give invaluable practice with the methods covered in the lessons and are essential in order to build the skills required to be successful at this level.

Progression in the Senior Phase.

Employment, Training or Further Study

- It is important to have strong Maths skills for progression to many degree courses at University.
- Advanced Higher Mathematics is essential or desirable for a wide range of degree courses including Economics, Computing, Social Sciences and Business.
- Any student applying to study a degree in a STEM subject should also consider taking Advanced Higher Maths.