

# Further Mathematics

**Type of course: GCE AS & A level (1 or 2 year linear course)**

**Level: 3**

**Board: OCR MEI (To be confirmed)**

**Syllabus Title: Further Mathematics**

**Code: H635 (AS level), H645 (A level)**

## Entry Requirements

Candidates must have achieved a grade 7 in higher tier GCSE Mathematics.

## Outline/Course Objectives

The aim of the course is to develop a deeper understanding of further mathematics and an ability to use it in a variety of contexts, while extending mathematical thinking and problem solving. Students study a core of Pure Mathematics, with a major in either Statistics or Mechanics, along with a minor in other pure and applied topics.

## Course Content

In Pure Mathematics you will study: Proof, Complex Numbers, Matrices and Transformation, Vectors and 3-D Space, Polynomials, Series, Calculus\*, Polar Coordinates\*, Hyperbolic Functions\*, and Differential Equations\*.

In Mechanics you will study: Dimensional Analysis, Forces, Work Energy & Power, Momentum and Impulse, Circular Motion\*, Hooke's Law, Centre of Mass, Vectors and Variable Forces\*.

In Statistics you will study: Sampling, Discrete Random Variables, Bivariate Data, Chi-squared tests, Bayes' Theorem\*, Continuous Random Variables\*, Inference\*, and Simulation\*.

\* denotes topics which are A level only

## Assessment

For the AS level qualification you will sit 3 exams at the end of the first year (75 minutes each). For the A level qualification you will sit 3 exams at the end of the second year (varying in length from 75 minutes to 2 hours 40 minutes). There is no coursework for either qualification. Exams completed as part of the AS level qualification do not count towards the A level qualification.

## Future Opportunities

A-Level Further Mathematics is a "facilitating subject", approved by Russell Group universities. It is a preferred course for studying Mathematics, Physics and Engineering, and would also feed into courses in Chemistry and Economics.