

# AS/A2 Level MATHEMATICS: DOUBLE



## Course Guide

Level 3 Two-year course

2010/11

---

Double Mathematics (MEI) A Level is a modular course with similar assessment structures to that of the Single Mathematics A Level course. The main difference is that it is a double award course and involves double the amount of work. This course is suitable for students who are mathematically able.

---

### Subject introduction

Double Mathematics aims to develop an understanding of a broader range of mathematical techniques that will enable students to tackle harder problems. Indeed Double Mathematics develops work in areas of the subject, which are normally handled in the first year of degree courses in mathematics, statistics, physics and other sciences, engineering, computer science and economics. For this reason some universities offer course credits and advanced progression for students who have successfully completed some of the modules within the further mathematics component of this course. This course is designed for students who have been very successful at GCSE and who aim to progress to study mathematics or some mathematics-using subject at university. It is an essential course for any student considering progression to Oxford or Cambridge University to study mathematics or a mathematics-using subject.

As with Single Mathematics, students who gain entry to this course will be required to purchase a graphics calculator.

In addition, students will need to purchase their own copy of the MEI students' handbook. This contains a great deal of information that will be useful to students studying on courses beyond A Level.

This course is suitable for any student with an A\* or A grade at GCSE who enjoys mathematics. It can count as one of your four choices at AS.

At the end of the Lower Sixth, you can finish with an AS in Further Maths or you can continue on to do an A Level in Further Maths.

The certification of the Further Maths at AS will be done at the end of the two years as the exam board mixes and matches units to give the best grades possible in A Level Maths and AS Level Further Maths/A Level Further Maths (as applicable).

SEE WHAT'S NEXT

### Year 1 study outline

The Further Maths AS consists of three modules, only one of which is compulsory:

**Further Pure 1** – further concepts for Advanced Maths. This involves complex numbers, proof by induction, harder curve sketching (than that encountered in **Core 1** or **Core 2**) and matrices.

The rest of the AS is made up of modules that can be chosen from:

AS – **Statistics 1, Decision 1, Mechanics 1, Numerical Methods**  
 A2 – **Statistics 2, Decision 2, Mechanics 2**, etc.

The modules need to be different from those used for AS and A2 Maths.

### Year 2 study outline

For Further Maths A Level there is one compulsory module:

**Further Pure 2** – further methods for Advanced Maths.

### Methods of study

The pace of this course is brisk. The teaching time for each of the modules is however virtually identical to that available to Single Mathematics students. The main difference is the amount of time (about 9 hours per week) that Double Mathematics students are expected to spend on mathematics outside of class.

### Special features

Double Mathematics students interested in being entered for mathematical competitions and/or applying to Oxford, Cambridge or Warwick Universities are provided with the opportunity to take Specialist Mathematics. This is a course that occurs once every week and focuses upon topics that are tested in the UK Senior Mathematical Challenge competition and the British Mathematical Olympiad. In Year two the course shifts to STEP Mathematics preparation.

### Subject combinations and careers

Many of the points made in this respect for Single Mathematics apply to Double Mathematics. Double Mathematics will offer students intending to progress to study mathematics or a mathematics-using subject at university a flying start.

### Success stories

Double Mathematics at SEEVIC College has a long tradition of success. Many past students have provided us with some very positive feedback on the value of Double Mathematics for their subsequent study and career. At SEEVIC College we have maintained a tradition of students proceeding to Oxford or Cambridge University to study Mathematics.

### Methods of assessment

AS – 3 modules all worth 33 $\frac{1}{3}$ %  
 AS Further Maths – 3 modules; Further Pure 1 (33 $\frac{1}{3}$ %), Mechanics 1 (33 $\frac{1}{3}$ %), Statistics 2  
 + 20% coursework.

A2 – 3 modules; Core 3 20% coursework, Core 4 20% comprehension exercise.  
 A2 Further Maths – Further Pure 2, Decision 2, Statistics 3.