	Further Mathematics
Exam Board	Edexcel
Course Entry Criteria	8 in GCSE Mathematics
Essential skills	The emphasis at A level is on algebra: its manipulation, its use in representing problems and its relationships with graphs.
Year 12	Students taking Further Maths must do so as a fourth A-level with Mathematics as one of their other choices. In Year 12 students will take the full A-level Mathematics course (please see the information about Mathematics) before taking the Further Mathematics course in Year 13. Students will be able to decide whether they complete an AS or full A-level in Further Mathematics at the end of Year 12. Similar to Mathematics the course is split into two thirds pure mathematics and one third applied. The pure part of the course is designed to look at mathematics beyond the remit of normal maths and prepare students for the mathematics to be learnt at university. This includes such topics as complex numbers, first and second order differentials, polar coordinates and more complicated vector equations. The applied unit covers both decision mathematics and further mechanics. Decision Mathematics considers problem solving using algorithms and their application in the real world. Further Mechanics extends the mechanics learnt at A-level and introduces some new concepts like Work, Energy and Power. The course is examined by four exams, two pure and two applied, all of equal weighting and tested with a 1 ½ hour examination paper.
University requirements	Typical grade requirements to study a Mathematics degree are as follows: Oxbridge: A* A* A Russell Group: A* A A to A A B Non Russell Group: A B B
Related courses and careers	Physics, Chemistry, Computing, Economics, Music Technology, Engineering, Architecture, Finance, Insurance, Software Design, Scientist, Armed Forces, Police
Other Details	You will be asked to sit an assessment on **Saturday 19th January 2019.** The assessment does not require any knowledge of algebra beyond GCSE but it does assess your ability to use it and apply it in a way that will become routine at A-level. It will assess your ability to link through problems and select appropriate techniques. The assessment is one hour long and you will not be allowed a calculator. Topics included are: • Algebraic fractions • Graph sketching • Simultaneous equations including quadratic ones • Solving quadratic equations by factorisation or completing the square • Surds