



Overview	<p>Maths Further Maths A Level (MEI)</p> <p>Developed in collaboration with Mathematics in Education and Industry (MEI), the new A Level Further Mathematics B (MEI) qualification offers a coherent course of study to develop students' mathematical understanding and skills, encouraging them to think, act and communicate mathematically. It provides a solid foundation for further study in mathematics and also for those studying Computer Science, Finance, Engineering and the Physical Sciences other disciplines that make extensive use of mathematical skills</p>
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	Half Term 1	Half Term 2	Assessment
Autumn Term	<p>Pure Maths</p> <p>Vectors:</p> <ul style="list-style-type: none"> Lines and planes <p>Vector Product:</p> <ul style="list-style-type: none"> Multiplying vectors to get a vector solution. <p>Matrices:</p> <ul style="list-style-type: none"> Matrices and the intersection of planes. <p>Series and induction:</p> <ul style="list-style-type: none"> Method of differencing to sum series. Further proof by induction. <p>Further Calculus:</p> <ul style="list-style-type: none"> Using inverse trigonometric functions and partial fractions to integrate. <p>Applied option 1 Mechanics Major.</p> <ul style="list-style-type: none"> Motion under variable force Circular motion <p>Applied option 2 Modelling with Algorithms</p> <ul style="list-style-type: none"> Introduction to algorithms Introduction to networks Network algorithms 	<p>Pure Maths</p> <p>Polar Coordinates:</p> <ul style="list-style-type: none"> Graphs expressed in terms of a radius and an angle not x and y. <p>Maclaurin Series:</p> <ul style="list-style-type: none"> Deriving series that can approximate to common functions. <p>Hyperbolic Functions:</p> <ul style="list-style-type: none"> Functions based on the hyperbola $x^2 - y^2 = 1$ <p>Applied option 1 Mechanics Major.</p> <ul style="list-style-type: none"> Hook's Law Modelling oscillations <p>Applied option 2 Modelling with Algorithms</p> <ul style="list-style-type: none"> Further networks Linear programming 	<p>We do a assessment in the first week after half term.</p> <p>One Further Pure paper and a mixed further applied paper.</p> <p>December mocks, a formal assessment takes place just before the end of HT2.</p> <p>Four papers Further Pure, Statistics minor, Mechanics minor and either Modelling with algorithms or Mechanics major.</p>

	Half Term 3	Half Term 4	Assessment
Spring Term	<p>Applications of Integration:</p> <ul style="list-style-type: none"> Volumes, mean of a function and general integration <p>First Order Differential Equations:</p> <ul style="list-style-type: none"> Equations in terms of variables and a first differential (eg x, y and dy/dx) <p>Applied option 1 Mechanics Major.</p> <ul style="list-style-type: none"> Further Centres of Mass <p>Applied option 2 Modelling with Algorithms</p> <ul style="list-style-type: none"> The Simplex method 	<p>Complex Numbers:</p> <ul style="list-style-type: none"> Powers and Roots of complex numbers. The exponential form (e to the i theta) Summing series of \sin or \cos by going through the complex plane. <p>Applied option 1 Mechanics Major.</p> <ul style="list-style-type: none"> Oblique impact <p>Applied option 2 Modelling with Algorithms</p> <ul style="list-style-type: none"> Network problems as linear programming problems 	<p>Full Mock exams in all modules (Further Pure, Statistics minor, Mechanics minor and either Modelling with algorithms or Mechanics major.) after half term.</p>

	Half Term 5	Half Term 6	Assessment
Summer Term	<p>Second Order Differential Equations:</p> <ul style="list-style-type: none"> Equations with second differentials (d^2y/dx^2). <p>Statistics Recap:</p> <ul style="list-style-type: none"> Recap of year 1 statistics. External Exams (Further Core pure is usually before half term) 	<ul style="list-style-type: none"> External Exams 	Preparation test at start of HT5.

Useful Resources for Supporting Your Child at Home:	Homework:
<p>https://integralmaths.org/ KS5 RESOURCES (padlet.com)</p>	<p>Homework is much more extensive, and we expect students to take control of their own work and spend longer on it (a minimum of 300 mins per week). Minimum Expectations are:</p> <ul style="list-style-type: none"> All questions especially “P” & “E” questions from exercises in the textbooks are to be completed self-marked and corrected. All MEI Section test to be completed online this is marked by the online program When requested Topic Assessment tests and exam practice questions might be set by teachers. <p>Other Topic specific questions are available in Class Material in Teams.</p>