

## Scheme of work

### A Level Further Mathematics (Year 12)

Half Term	Further Pure	Decision
1	<ul style="list-style-type: none"> <li>Complex numbers</li> <li>Numerical solutions</li> <li>Matrices</li> </ul>	<ul style="list-style-type: none"> <li>Algorithms</li> <li>Graphs and networks</li> <li>Algorithms on networks</li> <li>Route inspection</li> </ul>
2	<ul style="list-style-type: none"> <li>Series</li> <li>Proof by mathematical induction</li> <li>Coordinate systems</li> </ul>	<ul style="list-style-type: none"> <li>Critical path analysis</li> <li>Linear programming</li> <li>Matchings</li> </ul>
3		<ul style="list-style-type: none"> <li>Transportation</li> <li>Allocation</li> <li>Travelling salesman</li> <li>Further linear programming</li> </ul>
4		<ul style="list-style-type: none"> <li>Game theory</li> <li>Network flows</li> <li>Dynamic programming</li> </ul>
5	Revision	Revision
6	Advanced differentiation and integration	

### A Level Further Mathematics (Year 13)

Further Pure 2	Further Pure 3	Mechanics 2 or Statistics 2
<ul style="list-style-type: none"> <li>Inequalities</li> <li>Proof by method of differences</li> <li>Complex numbers</li> <li>Differential equations</li> <li>Maclaurin and Taylor series</li> <li>Polar coordinates</li> </ul>	<ul style="list-style-type: none"> <li>Hyperbolic functions</li> <li>Further coordinate systems</li> <li>Advanced differentiation</li> <li>Advanced integration</li> <li>Vectors</li> <li>Matrix algebra</li> </ul>	<p>Which course we do depends on the cohort of students we work with each year. This will be decided, with the students, each year.</p>