



## Bishop Stopford's School

### Curriculum Map Year 12

### Btec National L3 Extended Certificate in Engineering

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	<b>Unit 1-</b> Engineering principles  <b>Unit 2-</b> Delivery of Engineering Processes Safely as a Team	<b>Unit 1-</b> Engineering principles  <b>Unit 2-</b> Delivery of Engineering Processes Safely as a Team	<b>Unit 1-</b> Engineering principles  <b>Unit 2-</b> Delivery of Engineering Processes Safely as a Team	<b>Unit 1-</b> Engineering principles  <b>Unit 2-</b> Delivery of Engineering Processes Safely as a Team	<b>Unit 1-</b> Engineering principles <i>AO 1-5 Revision</i>  <b>Unit 10-</b> Computer Aided Design in Engineering	<b>Unit 1-</b> Engineering principles  <b>Unit 10-</b> Computer Aided Design in Engineering
Core Skills	<ul style="list-style-type: none"> <li>• Safe use of a range of manufacturing processes.</li> <li>•Extracting information from engineering drawings.</li> <li>•Research techniques.</li> <li>•Referencing information from varied sources.</li> </ul>	<ul style="list-style-type: none"> <li>• Safe use of a range of manufacturing processes.</li> <li>•Extracting information from engineering drawings.</li> <li>•Research techniques.</li> <li>•Referencing information from varied sources.</li> </ul>	<ul style="list-style-type: none"> <li>•2D computer-aided drawing</li> <li>•Preparation activities for batch manufacture or batch service delivery</li> <li>•Delivery of manufacturing or service engineering processes</li> </ul>		<ul style="list-style-type: none"> <li>• Revision techniques</li> </ul>	
Core Knowledge	<ul style="list-style-type: none"> <li>•Algebraic methods</li> <li>•Trigonometric methods</li> <li>•Static engineering systems</li> <li>•Loaded components</li> <li>•Common engineering processes</li> <li>•Health and safety requirements</li> </ul>	<ul style="list-style-type: none"> <li>•Dynamic engineering systems</li> <li>•Fluid engineering systems</li> <li>•Human factors affecting the performance of engineering processes</li> <li>•Health and safety risk assessment legislation</li> </ul>	<ul style="list-style-type: none"> <li>•Static and direct current electricity and circuits</li> <li>•Principles of engineering drawing</li> <li>•Principles of effective teams</li> <li>•Team set-up and organisation</li> </ul>	<ul style="list-style-type: none"> <li>•Magnetism and electromagnetic induction</li> </ul>	<ul style="list-style-type: none"> <li>•Single-phase alternating current</li> </ul>	
Assessment & Feedback		Unit 2- assignment 1	Unit 2- Assignment 2	Unit 2- Assignment 3	Unit 10- Assignment 1	Unit 10- Assignment 2
	Each lesson begins with ROPE tasks in which knowledge is recalled from past topics and answers are discussed and recorded. ROPE questions utilise the command verbs found within the specification in order to build students' use and understanding of these words and develop a deeper understanding of how they relate to grading within assignments and examinations. Mock assignments and past papers are delivered following learning phases and individual and whole group feedback provided against the specification. Learners are given time to respond to their feedback in dedicated feedback sessions.					Students undertake their first window for the Unit 1 examination which is externally moderated. Students will receive a further 2 assessment windows in Feb and June of Y13 with the highest grade taken forward for their final qualification grade.
Link to prior learning	Unit 1 requires students to develop their understanding of Engineering principles, specifically the application of scientific and mathematical calculations in within the engineering industry. Therefore students will benefit from a strong understanding of these subjects at key stage 4; <ul style="list-style-type: none"> <li>•Physics</li> <li>•Mathematics</li> <li>•Engineering/ Design and technology               <ul style="list-style-type: none"> <li>•Health and safety in the workplace.</li> <li>•Use of manufacturing processes.</li> <li>•Material selection.</li> </ul> </li> </ul>					