

## Level 1/2 Engineering

Y10					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>Students learn about permanent and non permanent joining methods, along with different types of welding techniques and electronic basics.</p> <p>Practically students will practice orthographic projection and create a phone stand from acrylic to a high standard.</p>	<p>Students learn further about engineering drawings and about BS Standard 8888. Students will also learn how to sequence and plan for practical's.</p> <p>Practically students will a high quality a Photo frame from Aluminium using all the tools and equipment available to them in the workshop. Students will also learn how to use the Centre Lathes and will create a simple Pin and Locking Nut through facing, parallel turning and knurling.</p>	<p>Students learn about Isometric Projection and how to draw 3D objects in this technique. Students also learn about CAD/CAM and practice creating parts using programs available to them on the computers.</p> <p>Practically students will create a metal whistle using all the processes that they learnt in term 2 on the Lathe. They will also create a stand for the whistle consisting of a wooden base and Acrylic Brackets. Students will be encouraged to think logically and independently.</p>	<p>Students will learn about structural, mechanical and Electronic Design.</p> <p>Students will also learn about MA, Velocity Ratio, Volumes of Production and Plastic Processes. They will also cover Areas and Volumes and basic mathematics that is applied to Engineering.</p> <p>Practically students will design and make a Scare Box with moving parts and a mechanism. An object will jump out of the box once the lid on the box has been moved.</p>	<p>Students learn about CAMS, Gear Trains, and all engineering Materials and prepare and revise for their mock exams.</p>	<p>Unit 1 NEA</p> <p>Students start Unit 1 NEA which is worth 40% of their final grade.</p> <p>During this Term Students complete several tasks that relate to identifying and identifying a brief set to them by the exam board, interpreting engineering drawings and planning for the manufacture of the set product in the workshop.</p>
Y11					
Term 1	Term 2	Term 3	Term 4	Term 5	Term 6

Unit 1 NEA	Unit 1 NEA	Unit 2 NEA	Unit 2 NEA	Unit 3 Exam Revision and Exam practice.	GCSE EXams
During this Term Students complete several tasks that relate to the manufacture and assembly of the product set to them by the exam board. Students will produce a diary of making to accompany the manufacture tasks.	During this Term Students continue to complete tasks that relate to the manufacture and assembly of the product set to them by the exam board. Students will produce a written report and an evaluation at the end of the manufacture.	<p>Students start Unit 2 NEA which is worth 20% of their final grade.</p> <p>This is a design task and will involve students taking what they have made in Unit 1 and redesigning/modifying this to meet a brief/specification written by the exam board.</p>	Students will finish their Unit 2 NEA by creating a model of the final design they produced in the previous term. They will also produce a third angle orthographic drawing and isometric drawing of this final design.		