



# Key Stage 4 Curriculum Overview

Progression from Key Stage 3 and optional progression through Post-16 :

	Autumn Term		Spring Term		Summer Term	
<b>Year 9</b>					Students at the end of Key Stage 3 will be able to: <ul style="list-style-type: none"> <li>Identify different materials and will be able to describe their working properties.</li> <li>Sketch in both 2D and 3D.</li> <li>Use CAD in 2D and 3D to support design.</li> <li>Produce simple manufacturing plans to guide making.</li> <li>Produce simple products in a range of materials to given degrees of accuracy.</li> <li>Prototype products accurately using card.</li> <li>Evaluate products identifying strengths and areas for improvement.</li> </ul>	
<b>Year 10</b>	<b>Materials, properties and processes</b>		<b>CAD/CAM</b>	<b>Designers</b>	<b>Sustainability</b>	<b>NEA</b>
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
	<p><b>Retro Robots:</b> To learn how to combine different materials with different types of fitting and apply different finishes in order to create a retro robot. Design work limited. Theory to cover: woods, metals, plastics, standard components, fittings, finishes.</p>	<p><b>LED light:</b> Simple LED light utilising casting (composites) and heat treatment of materials</p>	<p>Look at advantages of CAD and CAM.  <b>Egg/ pencil holders:</b> 2D design through to competent and independent use of the laser cutter.  <b>Childs peg board:</b> 3D design – drawing of individual components, assembly and rendering.</p>	<p>Look at design movements through time: Arts and crafts - Bauhaus – Art Deco – Memphis – futurism.            Look at the work of designers: Gropius - Sottsass – Starck – Ive.            Focus on observation and drawing communication.            Types of drawing            Candle project – Post modernism</p>	<p><b>Upcycling:</b> Need for sustainability            Product Life cycles            Approaches to greener products.            To include product disassembly.            Simple upcycling project.</p>	<p>Students start their NEA and will be expected to complete            Section A: Research            Section B: Specification            Section C: Initial design by the start of Year 11.</p>
<p><b>Homeworks:</b> To focus around white study guides to develop knowledge of class work and to extend knowledge and understanding of materials and their uses including card, board, composite, smart and modern materials.</p>	<p><b>Homeworks:</b> to focus on white study guides to look at how ICT and robotics are changing the world of manufacture.</p>	<p><b>Homeworks:</b> to focus on products, specifications, standards and consumer protection</p>	<p><b>Homework project:</b>            Based around research methods, presenting data and writing conclusions. Numeracy questions around data.</p>	<p><b>Homework:</b> To have an ongoing NEA focus.</p>		

Year 11	NEA	NEA	Designing for others	Revision	Revision	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Continued work on the NEA focusing on Section D: Development Section E: Realisation Section D must be completed by the end of the half term.	Continued work on the NEA focusing on Section E: Realisation Section F: Evaluation All sections must be completed by the end of the half term.	Social, cultural needs. Meeting the needs of others. Inclusive, adapted design. Product evaluations. Product safety and legal issues.	Formal revision programme: Re-teaching Misconceptions Making effective notes Exam technique Exam questions	Revision in preparation for examination.	Course Ended
	<b>Homeworks:</b> NEA and minor topics from white study guides	<b>Homeworks:</b> NEA and minor topics from white study guides	<b>Homeworks:</b> NEA and minor topics from white study guides	<b>Homeworks:</b> NEA and minor topics from white study guides	Revision	

**By the end of Key Stage 4 students should be able to:**

- Fulfill the requirements of AQA Design and Technology 7552 specification in full