

Curriculum Map 2021/2022

Year 9 Engineering

If chosen, students will complete curriculum for 1 hour per week)	Autumn 1a (lessons 1-7)	Autumn 1b (Lessons 8-14)	Spring 2a	Spring 2b	Summer 3a	Summer 3b
CONTENT <i>Declarative / core / powerful Knowledge – ‘Know What’</i>	Wooden Box Project – carpentry and joinery skills		Pop Art Jewellery/Accessory – Exploring modern pop art design through researching “Tatty Devine”. Using Pewter and acrylic to reflect the design style			
Students need to be able to:						
Skills <i>Procedural Knowledge – ‘Know How’</i>	<ul style="list-style-type: none"> · Understand the properties of different timbers · Understand manufacturing of wood joints · Understand and provide feedback to others · Develop workshop skills 	<ul style="list-style-type: none"> · Make quality control checks – enabling students to show high standards of outcome. Identify where problems may occur in order to avoid them · Problem solving 	<ul style="list-style-type: none"> · Revisit existing knowledge of polymers and their manufacturing methods and properties. Introducing Metals and Alloys. · Understand how to safely use Pewter · To be able to recognise metal in a molten state · Measure showing accuracy · Problem solving · Develop workshop skills using the following hand tools; Belt sander, Sand paper, Files, Coping Saw, steel ruler, heat gun and wet and dry paper. · Understand the Tatty Devine ethos 			

	<p>using the following hand tools; Belt sander, Sand paper, Files, Coping Saw, Tenon Saw, bench hook, try-square, steel ruler, hammer, centre punch</p>	<ul style="list-style-type: none"> Measure and demonstrate accuracy Understand the environmental issues involving the use of natural wood 	<ul style="list-style-type: none"> Technical and Isometric sketching skills Developmental skills and analysis of developments Cultural, environmental, social and moral issues within design Understanding the ergonomics of jewellery design 	
Key Questions	<ul style="list-style-type: none"> Explain what tool is used and why? What woods are most sustainable? Which method of Joinery is most effective? How have you ensured high quality? 	<ul style="list-style-type: none"> How will you remain safe using the machinery? How does manufactured board effect the environment? How can you ensure accuracy? 	<ul style="list-style-type: none"> Link your material to sustainability What are the raw materials of a polymer? Why is Pewter an Alloy? What is negative space? Why is it important when designing your mould? How will you ensure your safety in the workshop? How will you want your product to sit on the human body? Where will it be showcased? How can you put your design into context? 	
Assessment	<p>Assessment 1 To demonstrate and explain understanding of sustainable forestry</p> <p>Assessment 2 To demonstrate marking out joinery, leading to accurate measurements</p>	<p>Assessment 3 To show basic joinery though creating a box with finger joints, lap joints and housing joint.</p> <p>Assessment 4 Reflect on skills shown and outcome of box made</p>	<p>Assessment 1 Existing Products-To be able to analyse an existing product, to show an understanding of purpose, form & function.</p> <p>Assessment 2 Initial Ideas - To learn to communicate alternative ideas effectively. To be creative and stretch your imagination. To learn to be confident when expressing ideas</p> <p>Assessment 3 Design development - To clarify ideas through sketching discussion and evaluation To use your research and opinions of others to make informed decisions To improve communication skills.</p>	

			<p>Assessment 4 Final Idea - To be able to clarify through sketching and discussion to produce an accurate and annotated final solution.</p> <p>Assessment 5 Product - To create a mould in which to pour molten pewter To encase small pieces of acrylic To shape and finish to a high shine</p> <p>Assessment 6 - To critically evaluate your work using the views of others and suggesting improvements</p>	
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