

Design Technology Department: Curriculum Overview 2023-24

Curriculum Intent:

We believe that students deserve a Design Technology and Art curriculum which prepares them for the ever-changing world they live in. Our curriculum aims to promote and develop resilient, independent, problem solvers utilising a range of transferable skills, allowing them to become successful members of our wider community.

Our Design Technology and Art faculty comprises the following subjects: Design Technology, Hospitality & Catering, Food Technology, Graphic Design, Textiles, Art and Hair and Beauty. In the Design and Technology faculty students combine practical and technological skills with creative thinking to design and make unique outcomes. They learn to use current technologies and consider the impact of future technological developments as well as thinking creatively and solve a range of problems. We are a faculty which draws, develops and implements a range of different disciplines including mathematics, science, engineering, computing, geography, art and embed high quality literacy skills using analysis and evaluation techniques. Through the curriculum, students are actively contributing to the creativity, culture, and well-being of themselves. Students will be working in stimulating contexts that provide a range of opportunities and draw on the local community and wider world. They respond with ideas and products, challenging the ordinary and consider aesthetic, technical, cultural, social, emotional, economic, and environmental issues. Alongside this, students evaluate present and past design, its uses and effects. The Design Technology and Art faculty makes a unique and valuable contribution to the education and preparation for students’ future lives for work and leisure. We aim to ensure that our students achieve the best possible experiences to become lifelong learners sharing the same joy of the subject that their teachers have.

	Term 1
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Year 7	Half Term 1 6 lessons	Half Term 2 6 lessons
Topic	Pewter Jewellery project	Pewter Jewellery project
Key skills developed	<ul style="list-style-type: none"> Analysing Sketching and mathematical drawing Idea generation Practical planning 	<ul style="list-style-type: none"> Metal smithing Finishing Evaluating
Content	<ul style="list-style-type: none"> Cultural and social impact of design Brief and specification adapting Biomimicry Casting process Isomeric and exploded drawing 	<ul style="list-style-type: none"> Metal origins and properties Practical manipulation of materials Health and safety Material finishes Nets and card construction Testing and Evaluation
Prior Knowledge Required	<ul style="list-style-type: none"> Design process 	
Feedback Points	<ul style="list-style-type: none"> Written feedback - Product analysis Written feedback - Design ideas Ongoing verbal feedback log 	<ul style="list-style-type: none"> Written feedback - Practical outcome Written feedback - Metals sheet Ongoing verbal feedback log
Key Questions	<ul style="list-style-type: none"> What is casting? Can you describe the term biomimicry? What is a brief and Specification? 	<ul style="list-style-type: none"> What is the difference between a ferrous and non ferrous metal? Can you name some ferrous and nonferrous metals? How do you cast in pewter safely?
Direct Vocab Instruction	<ul style="list-style-type: none"> Design Biomimicry Isometric Brief Specification 	<ul style="list-style-type: none"> Ferrous Non Ferrous Alloy Material Finish Evaluate
Standardised Homework	<ul style="list-style-type: none"> Exploded diagrams Casting knowledge reinforcement homework Moodboard Product analysis Isometric letters Metals knowledge homework 	<ul style="list-style-type: none"> Workshop safety Names the tools Packaging research Present packaging ideas Evaluation feedback of project

Year 8	Term 1	
	Half Term 1 [6 lessons]	Half Term 2 [6 lessons]
Topic	Moodlight Project	Moodlight project
Skill	<ul style="list-style-type: none"> Analysing Sketching Idea generation Practical planning 	<ul style="list-style-type: none"> Timber joinery Graphical mark making Evaluating
Content	<ul style="list-style-type: none"> Exploring cultures Understanding electronic systems – input-process- output Brief and specification writing including identifying a user Recognising and explaining the functions of electronic components How to Solder safely Understanding stencils Isometric sketching 	<ul style="list-style-type: none"> Introduction to CAD CAM and its uses Timber origins and properties Practical manipulation of materials Health and safety Testing and evaluation
Prior Knowledge Required	<ul style="list-style-type: none"> Design process How to use research to generate ideas What a specification is 	
Feedback Points	<ul style="list-style-type: none"> Written feedback - Product analysis Written feedback - Design ideas Ongoing verbal feedback log 	<ul style="list-style-type: none"> Written feedback – CAD/CAM Written feedback – Final outcome Ongoing verbal feedback log
Key Questions	<ul style="list-style-type: none"> Can you explain the difference between an input, process and output? What do you need to be aware of when soldering? Can you identify different electronic components? 	<ul style="list-style-type: none"> What is the difference between a softwood and hardwood? Can you name a selection of soft and hardwoods? Can you explain how you use a workshop safely
Direct Vocab Instruction		
Standardised Homework	<ul style="list-style-type: none"> Every lesson has a 20-30min homework – see SOW for full break down of all homeworks 	<ul style="list-style-type: none"> Every lesson has a 20-30min homework – see SOW for full break down of all homeworks

Year 9	Term 1 [6 lessons]	Term 2 [6 lessons]	Term 3 [6 lessons]
Topic	Passive speaker	Passive speaker	Inclusive design
Skill	<ul style="list-style-type: none"> Analysing Problem solving Idea generation Idea generation Technical drawing 	<ul style="list-style-type: none"> Practical application of material knowledge Graphical skills Evaluation skills 	<ul style="list-style-type: none"> Designing for others Drawing skills Team work Presentation skills
Content	<ul style="list-style-type: none"> Modern Art movements – Memphis, Bauhaus positive and negative impacts on the environment finite and non finite 6 R's Idea generation Developing ideas into workable concepts Isometric crating Orthographic drawing Scale 	<ul style="list-style-type: none"> polymer origins and properties polymer manufacturing processes Workshop safety How to manipulate polymers Timber finishes Plan of manufacture, quality control 	<ul style="list-style-type: none"> Planned obsolescence & designed for maintenance Technology Push and Market Pull Inclusive design (elderly, disabled, religious groups) Cultural and ethical factors Idea generation Modelling Marketing
Prior Knowledge Required	<ul style="list-style-type: none"> Isometric drawing Design process 	<ul style="list-style-type: none"> Timber properties Workshop safety 	<ul style="list-style-type: none"> Isometric drawing Modelling skills
Feedback Points	<ul style="list-style-type: none"> Written feedback on Ideas Written feedback on isometric final design Verbal ongoing feedback log Formal assessment - 25 Multiple choice, 50 open looking at topics from yr7-9 	<ul style="list-style-type: none"> Written feedback on development Written feedback final outcome Verbal ongoing feedback log 	<ul style="list-style-type: none"> Verbal ongoing feedback log Written feedback on design work Written feedback on presentation
Key Questions	<ul style="list-style-type: none"> Can you name the 6 R's? Which resources are classed as finite? Why do we model designs? Which lines do not get included in an isometric drawing? What three views are found in an orthographic drawing? 	<ul style="list-style-type: none"> What are the two classes of polymer? Can you explain one manufacturing processes for polymers? 	<ul style="list-style-type: none"> What is the main difference between technology push and market pull? Define the term planned obsolescence Why is it important to consider cultural and ethical factors in design?
Direct Vocab Instruction	<ul style="list-style-type: none"> Upcycling Amplifier Finite Exhausted Renewable Orthographic Isometric 	<ul style="list-style-type: none"> Polymer Thermoforming Thermosetting Manufacture 	<ul style="list-style-type: none"> Obsolescence Inclusive Market Ethics Virtual marketing
Standardised Homework	<ul style="list-style-type: none"> Every lesson has a 20-30min homework – see SOW for full break down of all homeworks 	<ul style="list-style-type: none"> Every lesson has a 20-30min homework – see SOW for full break down of all homeworks 	<ul style="list-style-type: none"> Every lesson has a 20-30min homework – see SOW for full break down of all homeworks

Year 10	Term 1		Term 2		Term 3	
	Half Term 1 [14 lessons]	Half Term 2 [14 lessons]	Half Term 3 [10 lessons]	Half Term 4 [12 lessons]	Half Term 5 [12 lessons]	Half Term 6 [14 lessons]
Topic	Skills mastery	Skills mastery	Practice NEA – child toy	Practice NEA – child toy	Practice NEA – child toy	GCSE NEA
Skills developed	<ul style="list-style-type: none"> Practical planning Polymer knowledge application Timber joinery 	<ul style="list-style-type: none"> Metal Casting 	<ul style="list-style-type: none"> Analytical skills Researching skills Generating ideas 	<ul style="list-style-type: none"> Idea generating Problem solving 3D modelling/shaping skills Analytical skills 	<ul style="list-style-type: none"> Analytical skills Mathematical drawing Planning 	<ul style="list-style-type: none"> Analytical skills Researching skills Generating ideas
Content	<ul style="list-style-type: none"> Practical manipulation of materials polymer origins, classification and working properties Timber origins, classification and working properties Understanding the application of finishes Methods of production -one off batch, mass. 	<ul style="list-style-type: none"> Metal origins, classification and properties The process of sandcasting Manufacturing processes of metals Practical manipulation of materials 	<ul style="list-style-type: none"> Exploring a context Identifying a user Focused project research Anthropometrics & Ergonomics Analysing the work of others Writing a brief Writing a specification Beginning to generate ideas 	<ul style="list-style-type: none"> Generating ideas Developing ideas into workable concepts Modelling and testing materials 	<ul style="list-style-type: none"> Further focused research Developing final concept Production of manufacture specification Planning of manufacture 	<ul style="list-style-type: none"> Exploring a context Identifying a user Focused project research Analysing the work of others Writing a brief Writing a specification Beginning to generate ideas
Prior Knowledge Required	<ul style="list-style-type: none"> Difference between softwood and hard wood 	<ul style="list-style-type: none"> Difference between ferrous and non ferrous metals 	<ul style="list-style-type: none"> Design process Producing effective research What a brief and specification is Isometric drawing 	<ul style="list-style-type: none"> Design process 6 thinking hats Material properties 		<ul style="list-style-type: none"> Design process Producing effective research What a brief and specification is Isometric drawing
Feedback Points	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Unit 3 assessment paper 		Verbal feedback from staff recorded by students given on: <ul style="list-style-type: none"> Research section (moodboard and product analysis) Design ideas section (initial ideas)		<ul style="list-style-type: none"> 1.5hr full paper
Key Questions	<ul style="list-style-type: none"> Can you toughly explain the origins, classification and properties of timbers Can you toughly explain the origins, classification and properties of polymers Why are finishes applied and can you name a selection of finishes that are used on products? 	<ul style="list-style-type: none"> Can you describe the process of sand casting? Can you toughly explain the origins, classification and properties of metals? 				
Direct Vocab Instruction	<ul style="list-style-type: none"> Origin Classification Properties Stock form 					
Standardised Homework	Every lesson has a 20-30min homework – see SOW for full break down of all homeworks	Every lesson has a 20-30min homework – see SOW for full break down of all homeworks	Every lesson has a 20-30min homework – see SOW for full break down of all homeworks	Every lesson has a 20-30min homework – see SOW for full break down of all homeworks	Every lesson has a 20-30min homework – see SOW for full break down of all homeworks	Students give personal targets to work on based on their NEA projects.

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Year 11	Term 1		Term 2		Term 3		End Points
	Half Term 1 [? Lessons]	Half Term 2 [? Lessons]	Half Term 3 [? Lessons]	Half Term 4 [? Lessons]	Half Term 5 [? Lessons]	Half Term 6 [? Lessons]	
Topic	NEA	NEA	NEA	Section C	Specialist area - timber	Exam prep	
Skill	<ul style="list-style-type: none"> Idea generating Problem solving 3D modelling/shaping skills Analytical skills 	<ul style="list-style-type: none"> Analytical skills Mathematical drawing Planning 	<ul style="list-style-type: none"> Varying material manipulation processes Evaluating 	<ul style="list-style-type: none"> Applying knowledge Understanding what is required 	<ul style="list-style-type: none"> Applying knowledge Understanding what is required 	<ul style="list-style-type: none"> Applying knowledge Understanding what is required 	
Content	<ul style="list-style-type: none"> Generating ideas Developing ideas into workable concepts Modelling and testing materials 	<ul style="list-style-type: none"> Further focused research Developing final concept Production of manufacture specification Planning of manufacture 	<ul style="list-style-type: none"> Practical manipulation of materials to produce outcome Testing Evaluating 	<ul style="list-style-type: none"> How to apply drawing skills to questions How to answer “analyse and evaluate” questions 6-8 mark questions 	<ul style="list-style-type: none"> Reviewing timber origins, properties and processes How to apply knowledge to exam style questions 	<ul style="list-style-type: none"> Exam focused tasks based on class performance analysis (content each class has struggled with) 	
Prior Knowledge Required							
Feedback Points	Generic class feedback as instructed by JCQ regulations	<ul style="list-style-type: none"> 2hr Mock paper 	Generic class feedback as instructed by JCQ regulations				
Direct Vocab Instruction							
Standardised Homework	Students give personal targets to work on based on their NEA projects.	Students give personal targets to work on based on their NEA projects.	Students give personal targets to work on based on their NEA projects.				

Year 12	Term 1		Term 2		Term 3		End Points
	Half Term 1 [? lessons]	Half Term 2 [? lessons]	Half Term 3 [? lessons]	Half Term 4 [? lessons]	Half Term 5 [? lessons]	Half Term 6 [? lessons]	
Topic	Metals	Polymers	Timbers	Composites & papers	NEA & manufacture, project management	NEA & H&S legislation	
Skill	<ul style="list-style-type: none"> Testing properties Forming, joining and machining skills Analysis 	<ul style="list-style-type: none"> Workshop shaping skills 	<ul style="list-style-type: none"> Laminating and manipulating Measuring, marking out, common joints Costing exercises - numeracy 	<ul style="list-style-type: none"> Material manipulation Practical awareness of adhesives 	<ul style="list-style-type: none"> Analysing skills Primary and secondary Researching skills 	<ul style="list-style-type: none"> Idea generating Problem solving 3D modelling/shaping skills Analytical skills 	
Content	<ul style="list-style-type: none"> Material Properties Metals and alloys Industrial processes Design influences. Design movements Designers their work 	<ul style="list-style-type: none"> Properties and classifications properties and uses Manufacturing processes environmental impact Social, moral and ethical Socio economic issues 	<ul style="list-style-type: none"> Types & definitions Properties, environmental Protection & degradation Permanent and non-permanent joining methods 	<ul style="list-style-type: none"> Composite types, properties & uses Smart & modern materials Adhesives Industrial processes & alternatives Papers types, properties & uses 	<ul style="list-style-type: none"> Modern industrial practice Property Technology development Iterative design methodology Generation and conservation of energy Exploring a context Identifying a user Focused project research Analysing the work of others 	<ul style="list-style-type: none"> Responsible design Health & safety Accuracy in manufacture, QA/QC Manufacture, repair & disposal Jigs and fixtures Generating ideas Developing ideas into workable concepts Modelling and testing materials 	
Prior Knowledge Required	<ul style="list-style-type: none"> Foundation knowledge of metals 	<ul style="list-style-type: none"> Foundation knowledge of polymers 	<ul style="list-style-type: none"> Foundation knowledge of timbers 	Foundation knowledge of composites and papers			
Feedback Points	<ul style="list-style-type: none"> Feedback on exam question answers 	Feedback on exam question answers	<ul style="list-style-type: none"> Mini mocks 	Feedback on exam question answers	<ul style="list-style-type: none"> Generic class feedback as instructed by JCQ regulations 	<ul style="list-style-type: none"> End of year exam Generic class feedback as instructed by JCQ regulations 	
Key Questions	<ul style="list-style-type: none"> Select & describe materials accordingly awareness & knowledge. Of historical design development Awareness of mass production methods Awareness of famous designers work 	<ul style="list-style-type: none"> Understand environment issues. Select & describe materials appropriate for different products Understand how different products are mass produced. Consider alternatives 	<ul style="list-style-type: none"> Select & describe timber types accordingly Understand how manufactured timber improve performance and supply Awareness of extending performance and processes 	<ul style="list-style-type: none"> Understand existing and future printing and packaging needs & eco awareness Understand definition of composites and practical examples around 	<ul style="list-style-type: none"> How organisations manage design stages discuss the benefits and constraints on products +ive & -ive of design copyright 	<ul style="list-style-type: none"> Impact of 6R's & sustainability issues. Circular economy & energy What are rights and responsibilities, improved working conditions 	
Direct Vocab Instruction							
Standardised Homework	<ul style="list-style-type: none"> Study task – famous designers 	<ul style="list-style-type: none"> Exam style questions 		<ul style="list-style-type: none"> Exam style questions 	<ul style="list-style-type: none"> Exam style questions 		

Year 13	Term 1		Term 2		Term 3		End Points
	Half Term 1 [? lessons]	Half Term 2 [? lessons]	Half Term 3 [? lessons]	Half Term 4 [? lessons]	Half Term 5 [? lessons]	Half Term 6 [? lessons]	
Topic	NEA & Modern industrial practice	NEA & Product Design & Development					
Skill							
Content	<ul style="list-style-type: none"> Efficient use of materials Use of computer systems Digital design & manufacture Design for maintenance, repair. Sub assembly CAD/CAM plus IT system 'just in time' & data gathering Virtual modelling & rapid prototyping 						
Prior Knowledge Required							
Feedback Points							
Key Questions	<ul style="list-style-type: none"> how companies manage production volumes how companies use IT at different levels for efficiency Awareness of products & processes in house & manufacturing 						
Direct Vocab Instruction							
Standardised Homework							