



Learning Aims and Curriculum Intent:

Design and Technology offers a broad and inclusive curriculum that has been meticulously designed to enhance our pupils experience in preparation for the GCSE course. This course is split into two; the technical principles, which is covered as part of a set of designated theoretical lessons, and the design and making principles, which is a compilation of mini projects. Pupils are expected to undergo a design process and ultimately design and manufacture high-quality product solutions whilst learning and developing key manufacturing skills and techniques. The practical outcome is complemented with an electronic design portfolio, showcasing an array of skills such as, research, iterative design, rapid prototyping, and critical evaluation.

Term	Technical Principles	Design and Making Principles	Skills	Assessment
Michaelmas	Core Technical Principles 3.1: <ul style="list-style-type: none"> Materials and their working properties Natural and manufactured timbers. 	1) How can a product be designed in a sustainable and efficient manner? <ul style="list-style-type: none"> Wall Storage Unit 	<ul style="list-style-type: none"> Drawn design, development, and presentation. Primary research pages; identifying the problem, product analysis, etc. Prototype modelling using compliant materials. Manufacturing a high-quality product solution. 	<ul style="list-style-type: none"> Portfolio Pages including; <ul style="list-style-type: none"> Market Research Initial sketches Design development and iteration Manufacturing a high-quality product solution Personal and Client Evaluation Retrieval quizzes to build knowledge acquisition, understanding and retention.
Lent	Specialist Technical Principles 3.2: Timber Based Materials <ul style="list-style-type: none"> Selection of materials or components Forces and stresses Ecological and Social footprint Using and working materials. 	2) How can heat influence and enhance the properties of materials to meet the requirements of a design? <ul style="list-style-type: none"> Coat Hook Phone Stand 	<ul style="list-style-type: none"> Primary research pages; market research, product disassembly Presentation, layout and visual communication of ideas from initial thoughts through to final designs. Prototype modelling using different materials, using workshop tools / equipment. Manufacturing a high-quality product solution. Using modern and traditional joinery skills 	<ul style="list-style-type: none"> Portfolio Pages including; <ul style="list-style-type: none"> Initial sketches Design development and iteration Manufacturing a high-quality product solution Personal and client Evaluation Retrieval quizzes to build knowledge acquisition, understanding and retention. Ongoing holistic assessment via live marking, questioning, feedback and active oracy.
Trinity	Specialist Technical Principles 3.2: Timber Based Materials <ul style="list-style-type: none"> Specialist Techniques and processes Surface treatments and finishes. <p style="text-align: center;">End of Year Exam and Feedback</p>	3) What are the advantages of using Computer Aided Design? <ul style="list-style-type: none"> CAD / CAM Drawing Communication 	<ul style="list-style-type: none"> Drawing parts, assembling and rendering designs in CAD. Producing technical, third-angle projections of designs. Creating designs in orthographic, isometric, and perspective drawings. Understanding the assessment criteria for live NEA. 	<ul style="list-style-type: none"> Portfolio Pages including; <ul style="list-style-type: none"> CAD Part drawings CAD Assembly CAD Final Render CAD Working Drawing Hand drawn designs in isometric and perspective drawings.

Examples of Homework	Product Analysis – Conduct a product analysis using a similar product you have at home, consider the following aspects; size, function, materials, safety and cost. Iterative Designs – produce a range of imaginative, creative, and innovative design ideas in relation to your project, consider function and aesthetics of each design.
Key terminology	Wall Storage, Natural, Materials, Manufacturing, Quality Assurance, Quality Control, Laser Cutting, 3D Printing, Bespoke, Varnish, Iterative Process, Aesthetics, Ergonomics, Anthropometrics, Client, Safety Features, Evaluation, Analysis.

Super-curricular enrichment and scholarly extension	<ul style="list-style-type: none"> • Read: The Design of Everyday Things, by Don Norman • Watch: How To Come Up With Good Ideas Mark Rober TEDxYouth@ColumbiaSC - YouTube • Listen: Sparking creativity in a digital world, Design Nerds Anonymous • Visit: Design Museum; V&A South Kensington 	
Useful websites	GCSE Design and Technology - AQA - BBC Bitesize Dezeen architecture and design magazine	
Who can I contact?	Head of Design and Technology	Mr H Ibrahim, hi@forest.org.uk
	Teachers	Ms R Ghabae, rg@forest.org.uk Mr J Luton-Nicholas, jln@forest.org.uk