



Learning Aims and Curriculum Intent:

In Year 13, Design and Technology continues to deliver a broad and inclusive curriculum that has been meticulously designed as a continuation of Year 12. The structure is similar, as pupils study this course, 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 pupils completing their main Non-Exam Assessment (NEA). Pupils are expected to undergo a design process, demonstrating their knowledge and confidence in using workshop machines, tools, and equipment to ultimately design and manufacture a high-quality product solution in line with their chosen contextual challenge and for their client. Pupils will produce an electronic design portfolio, showcasing an array of skills from analysis to research, iterative designs to prototype modelling and conducting a vast number of tests with critical evaluation of which, will be submitted to the exam board at the end of Year 13.

Term	Technical Principles	Design and Making Principles	Skills	Assessment
Michaelmas	Topics: <ul style="list-style-type: none"> Design methods and Processes Design Processes Technology and Cultural changes Critical analysis and evaluation Selecting appropriate tools, equipment and processes Accuracy in design manufacture Responsible design Design for manufacture and project management National and international standards in product design. 	<ul style="list-style-type: none"> AO1 Identify, investigate, and outline design possibilities. AO2 Design and make prototypes that are fit for purpose. 	<ul style="list-style-type: none"> Drawn design, development, and presentation. Primary research pages Prototype modelling using different materials, using workshop tools / equipment. Planning Initial concepts Iterative design and development Scale modelling Consumer review CAD drawing and technical data 	<ul style="list-style-type: none"> Holistic assessment of the entire design portfolio and final practical solution.
Lent	<ul style="list-style-type: none"> Mock Exams Revision / NEA completion 	<ul style="list-style-type: none"> AO2 Design and make prototypes that are fit for purpose. AO3 Analysing and evaluating. 	<ul style="list-style-type: none"> CAD drawing and technical data Scale modelling part 2 Manufacturing using a range of different materials, workshops tools and equipment. 	<ul style="list-style-type: none"> Holistic assessment of the entire design portfolio and final practical solution.
Trinity	<ul style="list-style-type: none"> Revision 	<ul style="list-style-type: none"> NEA Submission to Exam Board. 	<ul style="list-style-type: none"> Revision skills, exam techniques. 	<ul style="list-style-type: none"> Past exam questions / papers.

Examples of Homework	Conduct a product disassembly, identifying the key parts and features, as well as analysing the validity of the materials and manufacturing techniques. Produce a detail diary of manufacture, highlighting the key stages of making, quality assurance procedures and health and safety practices. Experiment using different materials and manufacturing processes to identify the most suitable option for your project.
Key terminology	Contextual Challenge, Specification, Design Brief, Rapid Designs, CAD, CAM, 2D-Design, SolidWorks, Communication, Mix Media, Prototype, Compliant Materials, Ergonomics, Anthropometrics, Materials, Properties, Finish, Quality Assurance, Quality Control, Client, End User, Target Market. Thermoforming, Laser Cutter, 3D Printer, Brazing Hearth, Wood Turning Lathe.
Super-curricular enrichment and scholarly extension	<p>Read: Process Selection: From Design to Manufacture by K. G. Swift Design meets disability by Graham Pullin.</p> <p>Watch: Kat Holmes: Rethink What Inclusive Design Means. https://youtu.be/-iccWRhKZa8</p> <p>Listen: Artistic License Artistic License - 99% Invisible (99percentinvisible.org)</p> <p>Visit: Design Museum 224-238 Kensington High Street, London, W8 6AG New Designers Exhibition (3rd – 6th July 2024) Business Design Centre, 52 Upper Street, London, N1 0QH</p>

Useful websites	Design is History Home : Design Is History Product Recalls. Product Recalls and Alerts - GOV.UK (www.gov.uk)	
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