Curriculum Narrative – Design & Technology

Intent

The intent of the Design & Technology curriculum at Gosford Hill School is to inspire creativity, problem-solving, and technical confidence through hands-on design and making. The curriculum aims to equip students with the skills, knowledge and resilience needed to design and manufacture high-quality products that improve the world around them. Students learn to combine practical skills with creative thinking, developing confidence in using a range of materials, tools, and techniques safely and effectively.

Our DT curriculum prepares students with the foundational knowledge and skills required to access the **AQA 3D Product Design GCSE**, while also fostering transferable competencies such as independent learning, teamwork, and critical evaluation.

At KS4, students follow the **AQA GCSE Art & Design: 3D Design (8205)** specification, specialising in **3D Product Design**. The course focuses on designing and making functional and aesthetic products using materials such as **wood, metal, plastics, and clay**, developing creative, technical and practical expertise through both independent and guided projects.

The intended outcomes of the KS4 curriculum are for students to:

- Apply design principles and iterative processes to solve real-world problems.
- Develop technical skill and confidence across multiple materials and workshop processes.
- Build a portfolio of design work demonstrating creativity, experimentation, and refinement.
- Understand the formal elements of 3D design such as form, structure, surface and function.
- Produce a final outcome that reflects originality, craftsmanship, and purpose.

Throughout the course, students connect theory with practice, exploring design movements, material properties, and manufacturing techniques while developing a deep understanding of the creative and technical aspects of product design.

Curriculum Content Aims – KS4 Design & Technology (AQA 3D Design: Product Design Focus)

The KS4 curriculum is designed to meet the assessment objectives of AQA GCSE Art & Design: 3D Design (8205).
It is delivered through a combination of practical work and theory-based learning, enabling students to build creative, technical, and evaluative skills that support the design and manufacture of three-dimensional outcomes.

KS4 will address the following objectives through a range of projects, focused studies, and independent design work:

- AO1: Develop ideas through investigations, demonstrating critical understanding of designers, craftspeople, and relevant sources.
- AO2: Refine work by exploring and experimenting with materials, techniques, and processes to develop design intentions.
- AO3: Record ideas, observations, and insights through sketching, modelling, annotation, and digital design relevant to intentions as work progresses.
- AO4: Present a personal and meaningful final outcome that realises intentions, demonstrates craftsmanship, and shows understanding of visual language, form, and function.

Year 10	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Focus	**Design Principles & Workshop Foundations**	**Materials, Processes & Accuracy**	**Structure, Form & Iterative Modelling**	**Design for the User**	**Mock NEA – Part 1**	**Mock NEA – Part 2 / Portfolio**
Project / Theme	**Biomimicry Desk Accessory** Functional object inspired by natural forms	**Metal Bracket / Shelf Support** Structural and load-bearing design	**Wooden Lamp / Lighting Prototype** Form, function, and iterative modelling	**Ergonomic Metal/ Wooden Bottle Opener** Inclusive design & human factors	**Moving Product / Vehicle Prototype** Mechanisms & independent thinking	**Mock NEA Final Outcome** Making, finishing, and portfolio completion
Material Focus (Student Choice)	**Primarily wood** (softwood/plywood), optional: metal or acrylic accents	Metal or alternative material if justified (wood/plastic)	Wood-led, with optional acrylic diffusers	Wood-led, metal insert	Plastic, modroc,wood mixed materials allowed	Card led, mixed materials allowed
Core Knowledge	• Workshop safety & tools • Design principles (form, function, proportion) • Material properties	• Measuring, marking, cutting, joining • Material behaviour under stress	• Structure & frame design • Prototyping & testing ideas • Introduction to CAD	• Ergonomics & anthropometrics • Surface finishes • User research	• Design process for independent project • Mechanisms & joints • Planning manufacture	• Refinement of design • Evaluation & portfolio documentation • Presentation skills

Key Skills	**AO1 & AO3** • Research & analysis of natural forms • Sketching, annotation, model-making	**AO2 & AO3** • Testing materials & processes • Prototype development	**AO2 & AO3** • Iterative design • CAD & visualisation	**AO1 & AO2** • User-centred design • Shaping & refinement	**AO2 & AO4** • Independent problem-solving • Making & craftsmanship	**AO4** • Final outcome • Evaluation & reflection
Assessment	Formative assessment: sketches, models, annotations	Formative assessment: prototype testing & refinement	Formative assessment: iterative models	Formative assessment: ergonomic testing & user feedback	Formative assessment: NEA-style development	Summative assessment: completed mock NEA portfolio

Year 11	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Focus	**Coursework Portfolio (NEA)**	**Coursework Portfolio (NEA)**	**Externally Set Task (EST)**	**Externally Set Task (EST)**	**Externally Set Task (EST)**	**Exam & Final Submission**
Project / Theme	**Designer / Craftsperson Movement Project** Contextual investigation to inform NEA direction	**NEA – Individual Project Development**	**EST – Exam Board Starting Point Released**	**EST – Design Development & Making**	**EST – Final Outcome & Evaluation**	**Written Exam & Submission**

Material Focus (Student Choice)	**Students select a primary material pathway:** • Wood & timber products • Metal • Plastics / polymers • Mixed materials Textiles	Material focus maintained and justified through design decisions	Material focus selected in response to starting point	Material testing and refinement within chosen material	Final outcome resolved in chosen material	N/A
Core Knowledge	• Designer and craft traditions within chosen material • Material properties & sustainability • Contextual influences	• Manufacturing processes relevant to chosen material • Planning & sequencing	• Interpreting themes & contexts independently	• Construction methods & tolerances	• Evaluation and reflection	• Design principles & processes
Key Skills	**AO1 & AO3** • Research & analysis • Sketching, annotation, modelling • Material experimentation	**AO2 & AO4** • Refining ideas • Prototyping & making • Craftsmanship	**AO1 & AO3** • Independent idea generation • Recording design intentions	**AO2** • Testing, refining, problem-solving	**AO4** • Final outcome • Evaluation against intentions	• Exam technique

Assessment	Formative assessment using AO criteria		**Coursework Portfolio formally marked and submitted by 31st May**	