



Design and technology



Curriculum Overview Key Stage 5

Students who choose to continue with design and technology for A Level, benefit from access to the fully equipped workshops to support learning and cover all the requirements of the AQA specification. Students are encouraged to adopt a higher level of critical thinking and problem solving through both theory and practical activities. Students explore material categories, in more depth, as well as wider design considerations covered in Core Technical and Design and Making Principles. Students benefit from autonomy over their chosen project theme which follows the iterative design process, catering to the specific needs of an identified client.

Examination Specification: A Level		
	Topic	Key Themes
YEAR 12	Materials and their properties (Technical Principles)	The deeper study and testing of woods, metals, polymers, cards, composite and smart materials covering: - Sources and origins - Applications - Testing - Finishing These will all be theoretical and small skills-based projects.

	Introduction to design and making principles	Students look into the deeper aspects of design, covering: - Design methods and processes - Design theory - Technology and cultural changes - Design processes - Critical analysis and evaluation - Accuracy in design
	Manufacturing techniques (Technical Principles and Design and Making Principles)	Students focus on commercial manufacturing methods in wider industry with an emphasis on: - Responsible design for manufacture - Material enhancement - Forming and redistribution processes - The use of finishes in industry
	Modern and industrial commercial practice (Technical Principles)	Students focus on the global and ethical issues surrounding product development today, looking at: - Digital design and manufacture - Product design and development - Health and safety - Design for manufacturing, maintenance, repair and disposal - Enterprise and marketing in the development of products
	Technology and cultural changes (Design and making Principles)	Students learn the underpinning the fundamentals of - Design communication - Design processes in product development - Iterative design in commercial contexts
	Non exam Assessment Preparation	The students generate ideas for their own Non-Exam Assessment which is a contextual challenge of their own choice. - AO1 Section A: Identifying design possibilities. The students will produce a clear rationale for their chosen context with clear primary and secondary research conducted and analysed.
	Non exam Assessment Preparation	- AO1 Section B: Producing a design brief. The students produce a detailed design brief and specification reflecting their user needs. - AO2 Section C: Development of design proposals Generating design ideas and possibilities
	Topic	Key Themes
YEAR 13	Non exam assessment	- AO2 Section C (continued): The students further develop their design ideas and model various prototypes for client feedback and further evaluation
	Non exam assessment	- AO2 Section D: Development of design prototypes. The students produce detailed manufacturing plans taking into consideration feasibility of construction and usage, quality control and assurance and selection of tools, materials and components
	Non exam assessment	- AO2 Section D (continued): Students realise their design ideas in a practical setting by applying the theoretical

		knowledge of the A Level course to their own bespoke product, adhering to their clients' needs and expectations.
	Non exam assessment	AO3 – Section E: Analysing and evaluating. Students conduct ongoing analysis, evaluation and testing which informs the original design brief and needs of the user. Constant iteration is displayed throughout.
	Revision resources	AQA Revisions guides PG Online Revision Resources
	Written exam	Technical Principles: 2.5 hours Design and making principles: 1.5 hours

Extracurricular and Enrichment opportunities

- Engineering bridge building club
- Visiting guest speakers
- STEM opportunities at Didcot Railway Centre

