

Year 13

Theory

Timing	Unit Title	Knowledge	Assessing Understanding
Autumn term (2 lessons /week)	Technical principles 2	Materials: Performance characteristics <ul style="list-style-type: none"> Elastomers Polymer based sheet and film Smart materials Modern materials Composites including: GRP, CFRP, glulam, concrete and fibre cement Digital design and manufacture <ul style="list-style-type: none"> Computer aided design Computer aided manufacture Virtual modelling Rapid prototyping Electronic data interchange Production planning and control Modern industrial and commercial practice <ul style="list-style-type: none"> Scales of production Efficient use of materials The use of computer systems Sub-assembly Health and Safety <ul style="list-style-type: none"> Safe working practice Safety in products and services to the customer Designing for manufacturing, maintenance, repair & disposal	End of unit tests
	Design and making principles 2	Critical analysis and evaluation Selecting appropriate tools, equipment and processes Accuracy in design and manufacture Responsible design <ul style="list-style-type: none"> Environmental issues Conservation of energy and resources Design for manufacture and project management <ul style="list-style-type: none"> Quality control 	

		<ul style="list-style-type: none">• Quality assurance• Planning for accuracy and efficiency National and international standards in product design	
Spring term 1 (1 lesson /week)	Technical principles 3	Protecting intellectual property Product lifecycle Feasibility studies Design communication	Mock exam
Summer term 1	Revision	Paper 1: Technical principles Paper 2: Designing and making principles	

Non-Exam Assessment (NEA)

Autumn term: 2 lessons per week	Non-exam assessment	<ul style="list-style-type: none">Students must undertake a small-scale design and make task. Students must produce a final prototype based on a context identified and explored by them.With reference to the context, students will develop a design brief that meets the needs of a user, client or market.The brief must be of an appropriate level of complexity and contain a degree of uncertainty so that students can engage in an iterative process of designing, making, testing and evaluating.Students must produce a final practical prototype based on the design brief they have developed, along with a supporting digital design portfolio.	Assessment against AQA marking criteria
Spring term 1: 3 lessons per week			
Spring term 2: 4 lessons per week			