

Year 13

Timing	Unit Title	Knowledge	Assessing Understanding
Autumn term (2 lessons /week)	Technical principles 2	Materials: Performance characteristics • Elastomers • Polymer based sheet and film • Smart materials • Modern materials • Composites including: GRP, CFRP, glulam, concrete and fibre cement Digital design and manufacture • Computer aided design • Computer aided manufacture • Virtual modelling • Rapid prototyping • Electronic data interchange • Production planning and control Modern industrial and commercial practice • Scales of production • Efficient use of materials • The use of computer systems • Sub-assembly Health and Safety • 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 • Environmental issues • Conservation of energy and resources Design for manufacture and project management • Quality control • 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-exa m assessme nt	- 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			