

GCSE Design & Technology Year 10	Curriculum Intent: GCSE Design and Technology will prepare students to participate confidently and successfully in an increasingly technological world. Students will gain awareness and learn from wider influences on Design and Technology including historical, social, cultural, environmental and economic factors. Students will get the opportunity to work creatively when designing and making and apply technical and practical expertise. This GCSE allows students to study core technical and designing and making principles, including a broad range of design processes, materials techniques and equipment. They will also have the opportunity to study specialist technical principles in greater depth. Through a range of pilot projects, students will get the opportunity to build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.																							
	Designing and Making Skills, acquiring knowledge and developing understanding – Core Technical principles/Specialist Technical principles																							
	Term 1 & 2 Introduction/ Communication of Design Ideas					Term 3 & 4 Design strategies and contexts					Term 5 Technological perspective			Term 6 NEA Exploring the Contexts										
Interleaving	Designing and communication skills, specialist technical principles and safe working practices																							
Practical Skills	Revision of established workshop skills and safety/risk assessment Using and working with materials. 2D & 3D Technical drawing. Prototype modelling.		Investigating primary and secondary data CAD Drawing & Laser-cutting. Forming Polymers CAD Software CAM Manufacturing			Prototype modelling Dimensional accuracy and working to a tolerance. Measuring and marking out. Cutting and shaping of material to minimise waste - Fabrication		Investigating primary and secondary data The use of production aids and specialist tools/processes Application of surface finishes/treatments			Material manipulation and testing Risk assessment and safe practice.		Investigating primary and secondary data Market research											
Knowledge	Health and Safety. Materials and their working properties. Classification & Categorisation of types.		Anthropometrics and Ergonomics Material management Specialist tools and equipment Design Strategies			The work of others Sustainability and the environmental challenge Material sources & stock forms Specialist processes		New and emerging technologies Developments in new materials Materials and their working properties			Energy and storage Ecological and social footprint Mechanical devices Systems approach to designing Forces and stresses		Designing and making principles Design Strategies											
Understanding	An overview of materials and their properties How materials are cut, shaped and formed. Graphic communication		How to develop prototypes in response to a client wants/needs. How to shape and form using technical expertise Accuracy working to a tolerance.			Aesthetics Critical reflection & feedback Modifications Fabrication of timbers Material management		Iterative design Industry and enterprise Scales of Production			Fossil fuels and energy Different types of movement Changing magnitude and direction of force		Specialist Technical principles Designing and making principles											
Skills	Investigate/Identify	Communication	Analyse	Generate Ideas	Investigate/Identify	Communication	Analyse	Generate Ideas	Realisation	Analyse	Generate Ideas	Realisation	Evaluate	Investigate/Identify	Generate Ideas	Realisation	Evaluate	Investigate/Identify	Analyse	Evaluate	Investigate/Identify	Communication	Analyse	Evaluate
Assessment	Verbal and Written feedback from teacher. Self and peer assessment. Group evaluation		Verbal and Written feedback from teacher. Self and peer assessment. Group evaluation			Verbal and Written feedback from teacher. Self and peer assessment Group evaluation.		Verbal and Written feedback from teacher on Task Tracker sheet. Self and peer assessment.			Verbal and Written feedback from teacher on Task Tracker sheet. Self and peer assessment.		Verbal feedback from teacher. Self and peer assessment. Group evaluation											