

Year 11 Product Design Curriculum Map

	Project	What will I learn?
Term 1	GCSE Controlled Assessment/ Designing and Making	<ul style="list-style-type: none"> • How to write a detailed specification using analysis of research. • Designing ideas to meet a brief using a range of techniques including CAD. • Using modelling to develop ideas whilst evaluating against the design requirements and further involvement from the client. • A deeper understanding of materials and processes to select suitable manufacture for a given design. • To practise accurate measuring, cutting in order to manufacture a high quality product.
Term 2	GCSE Controlled Assessment/ Making/Evaluation	<ul style="list-style-type: none"> • Completion of individual practical products (using a wide range of machines, materials and techniques). • Effective planning of manufacture using flow charts, with the consideration of Quality Control, equipment and Time. • Evaluating final products against specifications and third party in put. • Testing products against the specification.
Term 3	Revision for the Summer Exam	<ul style="list-style-type: none"> • Exam theme • Paper sizes and making paper • Types of card and their uses • Lamination • Exam Practise • Product Evolution • Technology Push/Market Pull • Planned Obsolescence • Needs of the user • Anthropometric Data • Pop Quiz • Scales of Production • Tools and equipment • Hazards & precautions (PPE) • Labelling • Protection of ideas • Brand identity • Exam practise • Ergonomics and Anthropometrics • Practise Questions • Needs of the user • Specifications • Quality Control and Quality Assurance • Ethics and the Environment • Sustainability, Carbon Footprint, Product Miles, Packaging and the environment. • Drawing Techniques • Drawing Equipment • Colour Theory • Presentation Techniques • Materials and their properties • Metals (ferrous, non ferrous and alloys) • Heat treatments for metals • Surface finishes for metals • Plastics (Thermoplastic and Thermosetting plastics) • Timber • Practise Questions • Standard components • CAD/CAM • Rapid prototyping and modelling • Modelling materials • Consistency in production • Health and Safety

		<ul style="list-style-type: none">• Safety and the customer• Forming and bending• Forming –laminating• Types of manufacture for plastic products (Blow moulding/vacuum, Injection, Rotational, Die casting and press moulding)• Movements (levers/linkages/cams/pneumatics)• Mechanical components (Gears)• Design movements• Smart and New materials• Nanomaterials• Integrated electronics• Fixings and Bindings• Ceramics and glazing• Manufacturing systems and ICT• ICT and its part in manufacture• Electronic components• Integrated Components
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