



## GCSE Product Design KS4 Curriculum Overview 2019 – 20

Technology allows students the opportunity to be creative and understand how ideas can be developed into everyday products. It aims to prepare students for an ever-increasing technological world and gain important skills for life!

Exam board and syllabus name: GCSE Product Design		Coursework % 50	Final examination % 50	
Year 10				
Term	Unit/topic	Knowledge	Skills	Assessment
<b>Autumn term 1</b>	Project 2: Sustainability Project	Sustainability and the environment. Production techniques and systems. Polymers The six Rs Practice Short Exam questions. Core knowledge	Developing design generation and development skills.	AF –2 and 3 – Design generation and development.  On-going AF – 6 Theory – Combined topics.
<b>Autumn term 2</b>		Modern materials Smart materials Paper and boards Natural and manufactured timbers Ecological and social footprint Scales of production Practice Short Exam questions Core knowledge	Developing manufacture planning and evaluation skills.	
<b>Spring term 1</b>	Project 3: Mini make project	Energy generation Energy storage Metals and alloys	Development of manufacture skills in	AF – 4 Realising Design ideas



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		Textiles Practice Short and long Exam questions Core knowledge (mini mock)	polymers, timbers, and metals.	
<b>Spring term 2</b>	Project 4: Mock GCSE project	Industry and enterprise Composite materials and technical textiles. Systems approach to designing. Electronic systems Processing Mechanical devices Practice exam questions Core knowledge.	Development of ongoing research and investigation skills. Understanding of GCSE lay out and folder presentations. Development of further design brief, specification, design generation and development skills.	AF – 1 investigating context and analysis
<b>Summer term 1</b>		People, Culture and society. Commercial Manufacturing, surface treatments and finishes. Improving functionality Investigation, primary and secondary data.	Further development of manufacture planning, materials selection and effective use of tolerances and marking out. Further development of manufacture skills including CAD/CAM. Focus on on-going evaluation as well as final evaluation.	AF – 5 evaluation



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<b>Summer term 2</b>	GCSE coursework – sections A-C	The work of others Communication of design ideas and prototype development. Selection of materials and components. Long answer exam questions on Core specialist technical principle areas.	Develop understanding of assessment criteria and folder lay out.  Develop knowledge in use of creative/innovative design, existing products, designers and biomimicry to improve design ideas and Selection of design brief.  Effective self-assessment of sections A-C in line with Exam board rules on feedback.	Final AF – 6 Theory – Year 10 Mock GCSE exam
<b>Year 11</b>				
<b>Term</b>	<b>Unit/topic</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Assessment</b>
<b>Autumn term 1</b>	GCSE Coursework – Section C-E	Tolerances and allowances Material management and marking out. Specialist materials area. Questions on sources and stock forms.	Develop further skills in design development, including effective testing of features, processes, materials and CAD/CAM.  Effective self-assessment of sections C-E in line with Exam board rules on feedback.	GCSE Exam question practice – specialist materials area questions source and stock forms.



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<b>Autumn term 2</b>	GCSE Coursework – Section D-F	Surface treatments and finishes. Exam Practice Specialist materials area Questions on processes Review: New emerging technologies.	Individual development of skills in material areas, including CAD/CAM.  Develop skills to identify high-quality prototypes and identify areas to improve accuracy.  Effective self-assessment of sections D-F in line with Exam board rules on feedback.	GCSE Exam question practice – Mini mock.
<b>Spring term 1</b>				GCSE Exam question practice – specialist materials area questions manufacture systems.
<b>Spring term 2</b>	GCSE coursework – Section E-F	Testing and finishes Evaluation skills Review: Energy, Materials, systems and devices Review : Materials and working properties	Focus on providing high finish and testing on products.  Reflection and improvement of theory knowledge.	GCSE Exam question practices - specialist materials area questions processes.
<b>Summer term 1</b>	Review and exam prep	Review: Common special technical principles.	Reflection and improvement of theory knowledge.	GCSE exam Question
<b>Summer term 2</b>	<b>Most of this half term is made up of study leave and GCSEs.</b>			