Mulberry Academy Woodside
(KS4 Design & Technology)
Curriculum Overview 2023 - 2024

Curriculum intent statement:

In Design & Technology at Mulberry Academy Woodside, we encourage our learners to become creative problem-solvers, equipped with the skills and knowledge to thrive in an ever-evolving world. We believe in fostering a passion for innovation, sustainability and a practical application of design principles in the disciplines of Product Design, Textiles, Electronics and Food. This is achieved through hands-on experiences and interdisciplinary learning, allowing learners to develop their critical thinking, communication, collaboration and problem-solving skills. Our curriculum is designed to cultivate curiosity, ignite imagination, and instil an indelible appreciation for the role of design in shaping the world around us.

KS4 (AQA)		AUTUMN TERM		SPRING TERM		SUMMER TERM	
		TERM 1A	TERM 1B	TERM 2A	TERM 2B	TERM 3A	TERM 3B
YEAR 10 (3D Design: Product Design)	KNOWLEDGE	Theme: Culture inspired Photo Frame	Theme: Culture inspired Photo Frame	Theme: Surfaces inspired Wall Tiles Material Properties: Clay How to analyse existing products and the work of others	Theme: Surfaces inspired Wall Tiles Material Properties: Clay How to analyse existing products and the work of others	Theme: Natural Form inspired Lamp Material Properties: Timber How to analyse existing products and the work of others	Theme: Natural Form inspired Lamp Material Properties: Timber How to analyse existing products and the work of others

				Developing ideas through experimentation	Developing ideas through experimentation	Developing ideas through experimentation	Developing ideas through experimentation
	SKILLS	-Investigating a given context -Designing using a range of media -Communicating design ideas through annotation -Developing ideas iteratively	-Investigating a given context -Designing using a range of media -Communicating design ideas through annotation -Developing ideas iteratively	-Investigating a given context -Designing using a range of media -Communicating design ideas through annotation -Developing ideas iteratively -Prototyping	-Clay modelling -Glazing ceramics	-Investigating a given context -Designing using a range of media -Communicating design ideas through annotation -Developing ideas iteratively -Prototyping	-Marking out timber -Cutting timber -Joining timber
YEAR 11 (D&T)	**KNOWLEDGE** Examination – 50% of qualification. Core content is revisited and implemented into the teaching. Subject specific content is covered for the exam. www.technologystudent.com www.BBCbitesize.com www.designtechn	**Timbers (**Hardwood, Softwood & Manufactured) **Impact of new and emerging technologies** -Industry -Enterprise -Sustainability -People -Culture -Society -Environment	**Timbers (**Hardwood, Softwood & Manufactured) **Paper & boards** **Environmental, social & economic challenges when identifying opportunities and constraints that influence designing** -Respect for different social,	**Timbers (**Hardwood, Softwood & Manufactured) **Polymers (**Thermoforming & Thermosetting) **Energy Generation** Sources, generation & storage of energy Powering systems Factors to consider when choosing energy sources	**Timbers (**Hardwood, Softwood & Manufactured) **Textiles (**Natural, Synthetic, Woven, Non-Woven, Knitted) **Developments in modern & smart materials, composite materials and technical textiles**	**Timbers (**Hardwood, Softwood & Manufactured) **Metals (**Ferrous & Non-ferrous) **Mechanical devices** -Types Of Movement -Classification Of Levers -Linkages -Cams -Followers -Pulleys And Belts	**Timbers (**Hardwood, Softwood & Manufactured) **Electronic systems** -Sensors -Control Devices -Outputs **Programmable components** -Flowcharts -How to switch outputs on/off -Analogue inputs

ology.info/home specialism, which consists of a portfolio and prototype. Part 1 – Investigate Part 2 – Design Part 3- Make Part 4 - Evaluate Section A: Core This section is 40 marks and contains a mixture of different question styles, including open response, graphical, calculation and extended open-response questions. There will be 10 marks of calculation questions in Section A. Section B: Material categories This section is 60 marks and contains a mixture of different question styles, including open-response, graphical, calculation and extended-open-	-Production techniques & Systems **How new & emerging technologies inform design decisions** How to critically evaluate new & emerging technologies to inform design decisions How critical evaluations can be used to inform design decisions Ethical perspectives when evaluating new & emerging technologies Environmental perspectives when evaluating new & emerging technologies Technical textiles	ethnic & economic issues appreciation of the environment -"Green Design" -Recycling & reusing materials or products -Human capability -Life cycle analysis (LCA)		Modern & smart materials Composites Technical textiles	-Cranks & Sliders -Gear Types	-Simple routines with delays, loops, counts

response questions. There will be 5 marks of calculation questions in Section B						
SKILLS NEA: design & make project (50% of qualification.) Students pick a contextual challenge provided by the exam board (Edexcel). They then complete a portfolio of investigative, design and evaluative work which then culminates in the production of a final prototype.	**Investigate and analyse the work of past and present professionals** -Analysing a product to specification -Past and present designers	**Design & Technological practices to inform outcomes** -A wide range of materials, components & manufacturing to inform outcomes **Design strategies to generate ideas** **Develop, communicate, record & justify design ideas** Communication techniques to present design ideas Record & justify design ideas using written techniques	**Design & Technological practices to inform outcomes** -A wide range of materials, components & manufacturing to inform outcomes	**Design & Technological practices to inform outcomes** -A wide range of materials, components & manufacturing to inform outcomes	**Design & Technological practices to inform outcomes** -A wide range of materials, components & manufacturing to inform outcomes	