

Saffron Walden County High School Curriculum

CURRICULUM SUMMARY



SAFFRON WALDEN
COUNTY HIGH SCHOOL

Year 12		AUTUMN TERM		SPRING TERM		SUMMER TERM	
		TERM 1A	TERM 1B	TERM 2A	TERM 2B	TERM 3A	TERM 3B
Technology – Product Design		<p>Context: Design and make project will run throughout term one and apply all knowledge learnt in a practical outcome. Project work to be evidenced on an A1 presentation board.</p> <p>Theory lesson will be taught alongside the project work.</p> <p>There will be two in-class written assessments across the term. They will be based off the different topics covered.</p>		<p>Context: A make project will run to refine and develop students' practical skills and knowledge.</p> <p>There will be two in-class written assessments, based on theory topics covered this half term.</p>		<p>Context: NEA coursework (50% of the total grade) Students undertake a substantial design, make, and evaluate project study worth. Students will be expected to build on skills and knowledge acquired from the year 12 projects and develop a unique product that solves a real design problem for a real client.</p> <p>Theory will continue to be taught alongside.</p> <p>There will be two in-class assessments, one of which will be a mock examination simulating the real paper.</p>	
	KNOWLEDGE DOMAIN	<p>Material properties. Manufacturing to process materials. Precision and quality control. Use of mathematics in design. Use of graphical communication. Finishes: samples to test and evaluate. Considering application, level of protection, aesthetic qualities.</p> <p>Use of 3D CAD software to realise a prototype. Sources of inspiration for creating design ideas. Use of mathematics in design.</p>		<p>Adopting safe working practices, recognise and react to potential hazards. Quality monitoring systems.</p> <p>Use of mathematics in design.</p>		<p>Modern manufacturing methods and systems. Use of mathematics in design. Product Life Cycles. Life cycle analysis. Use of mathematics in design.</p> <p>Implication to designers, manufacturers, and consumers standards. Use of mathematics in design</p>	
	SKILLS DEVELOPED THROUGH THE KNOWLEDGE AND ENQUIRIES TAUGHT THIS HALF TERM	<p>To apply knowledge and understanding of working properties, Performance characteristics, applications, advantages and disadvantages of materials in order to discriminate between them and select appropriately</p> <p>Process, application and characteristics, advantages and disadvantages of specific and relevant tools to be used for domestic, commercial and industrial products and systems</p>		<p>Characteristics, advantages and disadvantages of the following permanent and semi-permanent joining techniques</p> <p>quality control – the monitoring and achieving of high standards and degree of tolerance by inspection</p>		<p>Robotics in production – robots on fully-automated production and assembly lines/cells. Manufacturing systems Material selection – source, quantity, quality, range, recyclability, biodegradability b) manufacture – minimising energy use, simplification of processes, achieving optimum use of materials and components, giving consideration to material form, cost and scale of production c) distribution – efficient use of packaging, reduction of transport, alternatives to fossil fuels</p>	

Use of media to convey design decisions, to record to recognised standards, explain and communicate information and ideas.

Use of computer-aided design to create and modify designs and create simulations.

Use of computer-aided manufacture (CAM)

Understand the impact and influences of key historical movements

and testing.

quality assurance – performance and degree of customer satisfaction

Total Quality Management (TQM) –and its impact on employees at every stage of the production process, ISO 9000

d) use – repair versus replacement, energy efficiency, efficiency ratings
e) repair and maintenance – standardisation, modular construction, bought in
f) end of life – design for disassembly, recovered material collection, sorting and re-processing methods, energy recovery, environmental implications of disposal to landfill.
British Standards (BSI and kite mark) b) European (CEN and CE) c) International Standards (ISO).