

Curriculum Plans: Year 11 Design and Technology

School Term	Topic	Knowledge: By the end of the unit students will know:	Skills: What skills will students have developed by the end of this unit?	Key terms: What new key terms and vocabulary will be learnt in this unit?	Summative Assessment: How will pupils be assessed in this unit?
1.1	Non-Exam Assessment (NEA) Section A: Investigation and Design Brief	<ul style="list-style-type: none"> How to investigate and analyse a given contextual challenge. The process of creating a detailed design brief and specification. Research methods for gathering primary and secondary data to inform design choices. 	<ul style="list-style-type: none"> Investigating products in relation to a design challenge. Developing design briefs and specifications. Analysing existing products and creating a mind map of research. 	Contextual challenge, design brief, specification, primary data, secondary data, product analysis	Half-term NEA Section A submission, including investigation, analysis, and design brief.
1.2	Initial Design and Development	<ul style="list-style-type: none"> How to generate creative design solutions in response to a design brief. The role of CAD in developing and refining ideas. Methods for sketching, modelling, and prototyping ideas before production. 	<ul style="list-style-type: none"> Producing initial design ideas using CAD and sketching. Refining ideas through development sketches and modelling. Testing prototypes and gathering user feedback. 	Prototyping, CAD, development sketches, refinement, user feedback, initial designs, iterative process.	NEA assessment, focusing on initial design ideas, development sketches, and prototypes.
2.1	Development of Final Design	<ul style="list-style-type: none"> How to refine and develop a chosen design based on user feedback and material considerations. The importance of producing detailed CAD models and manufacturing specifications. How to consider sustainability in the final design. 	<ul style="list-style-type: none"> Developing final design ideas through CAD modelling and testing. Creating detailed manufacturing specifications and considering sustainable practices. 	Final design, CAD modelling, manufacturing specification, sustainability, testing, evaluation, iterative development.	NEA assessment, focusing on the development of the final design, CAD models, and specifications.
2.2	Manufacture and Evaluation	<ul style="list-style-type: none"> How to manufacture a product using selected materials and tools. Techniques for managing production processes and ensuring quality control. How to evaluate a product's performance based on testing and feedback. 	<ul style="list-style-type: none"> Applying technical knowledge in exam-style questions. Developing exam techniques, including time management and answering extended questions. 	Core technical principles, forces, stresses, material calculations, past paper practice, exam techniques, revision strategies.	Mock exams and past paper practice, covering all core technical principles and design principles.
3.1	Exam Preparation and Revision	<ul style="list-style-type: none"> How to review and apply core technical and designing principles in exam questions. The importance of mathematical skills for calculating forces, stresses, and material quantities. Past paper practice for GCSE exam readiness. 	<ul style="list-style-type: none"> Applying technical knowledge in exam-style questions. Developing exam techniques, including time management and answering extended questions. 	Core technical principles, forces, stresses, material calculations, past paper practice, exam techniques, revision strategies.	Mock exams and past paper practice, covering all core technical principles and design principles.