Curriculum Plans: Year 13 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	**Design and Making Principles** 2.6 Selecting appropriate tools, equipment and processes 2.9 Design for manufacture and project management 2.10 National and international standards in product design	• How to select appropriate tools and equipment for manufacturing. • How to plan and manage a project from concept to completion. • National and international standards for product design and manufacture.	• Selecting and using tools for product manufacture. • Managing projects effectively with timelines and resource management. • Ensuring products meet design standards (national and international).	Tools and equipment selection, project management, design for manufacture, national and international standards, manufacturing processes.	**Assessment**: Skills-based assessment covering 2.6, 2.9, and 2.10.
1.2	**Mathematical Skills and Exam Preparation** 4.4 Mathematical skills for written exams Exam preparation and past paper practice	• Key mathematical principles needed for product design and manufacturing calculations. • How to approach and solve extended exam questions. • Strategies for past paper practice and revision.	• Applying mathematical skills in design contexts. • Answering extended exam-style questions. • Managing time effectively in exam scenarios.	Mathematical skills, past paper practice, exam techniques, extended question answers, time management.	**Assessment**: Practice exam papers and past paper analysis, focusing on 4.4 and exam techniques.
2.1	**Non-Exam Assessment (NEA) – Development and Modelling** CAD and Manufacturing Specification	• How to develop a design into a full product specification. • Modelling and refining designs using CAD. • Creating detailed manufacturing specifications based on design requirements and client feedback.	• Developing CAD models for final product design. • Creating comprehensive manufacturing specifications. • Refining designs based on user feedback and testing.	CAD development, product specification, manufacturing process, design refinement, user feedback.	**NEA assessment**: Development, modelling, CAD, and manufacturing specification.
2.2	**Product Manufacture and Testing** Product manufacture, manufacturing diary, Testing and evaluation	• The process of manufacturing a final product based on design specifications. • How to create a manufacturing diary, documenting each step of the process. • How to test and evaluate a product against design specifications and user feedback.	• Manufacturing a final product to a high standard. • Maintaining a detailed manufacturing diary. • Testing and evaluating products to ensure they meet design criteria.	Product manufacture, manufacturing diary, testing and evaluation, design specification, final product testing.	**NEA assessment**: Product manufacture, testing, evaluation, and manufacturing diary.
3.1	**Exam Preparation and NEA Completion**	• How to consolidate knowledge of design and technical principles. • Exam preparation strategies, including time management and extended questions.	• Answering complex exam questions. • Finalising all NEA documentation and product testing. • Using past papers to improve exam responses and confidence.	Exam techniques, past paper practice, design and technical principles, final NEA project submission.	**Assessment**: Final NEA submission and exam preparation, focusing on design principles and practical knowledge.

		• Finalising the NEA project, ensuring all documentation and products are completed to a high standard.			
3.2	**Study Leave and Exams**	• Completion of all exams based on A-Level design and technology content. • Final revision strategies for success in exams. • Self-reflection on NEA work and product outcomes.	• Applying revision techniques to ensure exam readiness. • Managing time effectively during study leave. • Reflecting on NEA work and using it to inform exam success.		**Final Exams**: Covering all A-Level technical and design principles, with a focus on NEA application in exam scenarios.