Altwood
Church of England School

Design Technology Department

Curriculum Overview - Year 9

First Rotation	**Second Rotation**	**Third Rotation**
4th Sept – 19th Oct.	7th Jan – 15th Feb	23rd April -24th May
29th Oct- 19th Dec (14 weeks)	25th Feb - 5th April (12 weeks)	3rd June – 23rd July(12 weeks)
2 weeks: ICT skills (5 hours)	2 weeks: ICT skills (5 hours)	2 weeks: ICT skills (5 hours)

KS3 Assessment Objectives

AO1: Design. To research and explore to identify and understand needs. Identify and solve design problems. Develop specifications to inform the design of innovative, functional and appealing products. Use a variety of approaches to design creative ideas. Develop and communicate ideas through annotated sketches, detailed plans, 3D and Mathematical modelling and digital presentation.

AO2: Make: Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer aided manufacture. Select from and use a wide range of complex components and materials taking into account their properties.

AO3: Evaluate Analyse the work of past and present professionals to develop understanding. Investigate new and emerging technologies. Test and evaluate and refine ideas, taking into account the views of intended users. Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of design, engineering and technologies.

AO4: Technical Knowledge Understand the use properties of material and the performance of structural elements to achieve functioning solutions. Understand how more advanced mechanical systems used in their products enable changes in movements and force. Understand how more advanced electronic systems can be powered and used in their products. Apply computer and electronic intelligence that responds to inputs.

The Big Picture: Year 9 projects are designed to give students and taste of the subject at GCSE level with project outcomes and experiences mimicking the assessment criteria for study at KS4

Mechanical Toy: Wood work
Developing an idea for making a mechanical toy. Evaluating ideas, testing models and making in wood.

G**REEN TASKS-** Formative testing of designs, Summative tool tests, Assessment of final product. Written evaluation /photo level of progress

Assessment Objectives covered – AO1, AO2, AO3 ,AO4

NEA contextual challenge – e.g. 'Urban Wildlife'
This project begins with investigation of how human activities, such as manufacturing have reduced natural environment. Pupils then identify design opportunities. They generate a range of ideas, model and test their solutions and plan their making. The emphasis is on iterative design which is part of GCSE design technology approach.
GREEN TASKS – Using research and investigation to inform idea development. Writing a success criteria (specification) communicating ideas through annotated sketches. modelling and testing ideas. Planning for making. Written evaluation /photo.

Assessment Objectives covered – AO1, AO2, AO3 ,AO4

Sellotape dispensers and supporting design work
Research into a widely available product that is then modelled in both 2 & 3 Dimensions. Students learn how to realise their own design in 3D using CAD/CAM to manufacture a high quality and fully functioning Sellotape dispenser. Students are also taught how to illustrate their designs using a variety of formal drawing techniques both by hand and using CAD packages.
GREEN TASKS Designs formatively assessed, Summative tests on Plastics Processes and production, Summative assessment of materials, equipment and processes evaluation grade including photo
Assessment Objectives covered – AO1, AO2, AO3 ,AO4