



Key Stage: 4

Subject: Design & Technology: Product Design

Aims of the subject:

We provide a high-quality design and technology education that should give pupils opportunities to create, innovate, design, make and evaluate a variety of well-crafted products that are fit for purpose. Pupils will be taught the technical skills and craftsmanship to execute practical tasks, thereby developing confidence to increase their skills, knowledge and competence in using materials, machinery, techniques and processes. Pupils should develop valuable practical skills and use these safely with a range of resistant and non-resistant materials, drawing media tools and equipment, in both 2D and 3D. They will be shown how to communicate their ideas and designs skillfully and accurately in 2D and 3D, using a variety of techniques, including digital technology, CAD and 3D Printing. They should know about good design, everyday products and use correct technical terminology with Design & Technology literacy. They will be allowed to investigate and analyse the rich history of design and technological innovation and the work of others, including iconic designs, to inform their own work. They will be shown developments in design and technology and the responsibilities of designers, including environmental responsibilities. Pupils should clearly enjoy the subject, whilst developing a mastery of Product Design. They will be guided by a teacher who themselves demonstrates a passion for Design & Technology.

Year 9

Year	What will I learn?	What will I do?
Year 9	<p>Term 1 – USB Project Analysis, Sketching Skills for USB pen project, Research, Design Ideas generation & presentation skills, Development, Final Design, CAD, CAM / 3D Printing, Finishing & Assembly, Evaluation, Testing, Presentation & Evidencing – Photoshop / Illustrator</p> <p>Term 2 – USB Project / Aroma Fan Evaluation, Testing, Presentation & Evidencing – Photoshop / Illustrator, Aroma Scented Fan project. Research, Design Ideas, Development, Modelling, CAD</p> <p>Term 3 – Aroma Fan Aroma / Scented Fan project. Modelling, CAD, 3D printing / Additional materials,</p>	<p>Analysis, Sketching & Presentation skills, Initial Design Ideas, Development, Final Design, CAD skills, Laser Cutting, Assembly</p> <p>Testing and Evaluation, Manufacture & Quality of Finish – Formative & Summative assessment, Research, Design Ideas, 3D Sketching, Development, Final Design Solution</p> <p>CAD, CAM / 3D Printing, Finishing, Assembly, Components, Detailing, Testing and Evaluations,</p>

	Manufacture, Finishing, Electronics fitting (components), Detailing, Testing, Evaluation	Manufacture & Quality of Finish
Year 10	<p>Term 1: Advanced Sketching Techniques / Major Project Coursework Advanced sketching, communication & presentation skills, Major Project Coursework: ePortfolio, Research</p> <p>Term 2: Advanced Sketching Techniques / Major Project Coursework Advanced sketching, communication & presentation skills, Major Project Coursework: ePortfolio, Design Ideas, Development, Modelling</p> <p>Term 3 Advanced Sketching Techniques / Major Project Coursework Advanced sketching, communication & presentation skills, Major Project Coursework: ePortfolio, Further Development, Modelling, Testing, CAD, Theoretical Underpinning</p>	<p>Advanced sketching techniques & practise, Advanced 2D sketching, Advanced 3D sketching, use of Marker pens, Research for Major Project</p> <p>Advanced 3D sketching, Initial Design ideas for major project, Development</p> <p>Modelling, Testing, Further Development, Final Design Solution, Planning for Manufacture, Introduction to CAD</p>
Year 11	<p>Term 1 – Major Project Coursework Major Project Coursework: ePortfolio, CAD training / skills / procedural command knowledge, Further Development, Final Design concept, Modelling Final Design (CAD), Modelling (where applicable)</p> <p>Term 2 – Major Project Coursework Major Project Coursework: ePortfolio, Completion of CAD, Evidence of CAD, Manufacture of Coursework, Finishing, Spraying & Detailing of manufactured outcome, Submission of ePortfolio & manufacture, Examination Preparation (based on theme supplied by Examination Board)</p> <p>Term 3 – Examination Preparation Examination Preparation (based on theme supplied by Examination Board), test papers, questions, practise papers.</p>	<p>Advanced CAD skills, Design for CAD, Design for 3D Printing, 3D printed manufacture</p> <p>3D printed manufacture, realisation, finishing, assembling, Testing & Evaluation, Submission of final ePortfolio & completed (working) manufactured work</p> <p>Test papers, research for Theme, examination practise, Theoretical underpinning</p>

Extra-curricular opportunities

Use of workshops with teacher supervision

How you can support your child's progress

Encourage all coursework to be completed to meet the set deadlines. Purchase of essential, advanced graphics equipment to ensure high quality presentation skills are developed. All work will be assessed and monitored through Edmodo. If you wish to see what work has been set and the progress of your child then please ask for the Edmodo parent code from the relevant teacher.