

Engineering Curriculum Map

Year 7	Year 8
Introduction to basic engineering design concepts and processes, through the construction of a USB powered lamp.	To develop an understanding of more complex engineering design concepts and systems, through the construction of a battery powered 'Steady Hand Game'

<p>Y9/10/11 From September 2022</p> <p>The design process, and all of the stages that are involved. The use of sketching and engineering drawings to communicate ideas. Design, evaluation and modelling to create and test models of designs.</p> <p>Year 9/10/11 Finish Summer 2024</p> <p>Basic electrical principles. Circuits Electronic systems control Microprocessor and microcontroller control systems</p>
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Year 12	Year 13
Materials technology and science Mechanical systems	Engineering design Production and Manufacturing NEA



Food Nutrition Curriculum Map

Year 7	Year 8
Food preparation (highlighting good kitchen practices) and nutrition	Further enhance knowledge and skills in relation to food preparation (highlighting good kitchen practices) and nutrition

Year 9	Year 10	Year 11
<p>Cooking with awareness of food groups, nutritional and multi-cultural cuisine.</p> <p>Health and Safety, hygiene, healthy eating, cooking methods and recipe selection based on client needs.</p>	<p>Advanced recipes and cooking tasks, expansion of cooking repertoire.</p> <p>Nutrition, food provenance and food choice. Advanced preparation and cooking techniques.</p> <p>Mock non examination assessment (NEA) 1 and NEA 2.</p>	<p>NEA 1 Investigative task—Develop a hypothesis to subsequently test the properties of a process or ingredients</p> <p>NEA 2 Design & Make Task—Explore the creative process in designing a selection of dishes for a specific client.</p>



Product Design Curriculum Map

Year 7	Year 8
An introduction to mechanisms - A design and make project using a single material and a broad range of workshop equipment whilst developing research, designing and practical skills.	An introduction to material selection and transformation—Designing and making a tea light holder using CAD, a range of materials and a broad range of workshop equipment and materials whilst developing research, designing and practical skills.

Year 9	Year 10	Year 11
Design and Technology GCSE - Further develop the knowledge of materials, production methods and sustainability through a range of design and make tasks using a range of materials and equipment.	Design and Technology GCSE—Core and specialist theory. Short NEA style example projects. Examination board set real non-examination assessment (NEA).	Design and Technology GCSE— Revise core and specialist theory. Complete NEA.

Year 12	Year 13
A-Level Product Design—Practical skills and CAD-based projects e.g. designing and making a lamp/clock and a chair. Theoretical knowledge NEA project selection	A-Level Product Design - Theory consolidation and revision Complete NEA and associated paperwork.



Textiles Curriculum Map

<p>Year 7</p> <p>Introduction to the sewing machine</p> <p>Design and make a fabric bean bag “stress chicken”</p> <p>Students learn how to thread and use a sewing machine. Sew in straight lines and produce a bean-bag toy demonstrating acquired skills.</p>	<p>Year 8</p> <p>An introduction to stitch, print and applique.</p> <p>Design and make a pencil case.</p> <p>Students use 2D Design software to create their own digital repeat pattern which they then sublimation print onto fabric. They then construct a pencil case using the sewing machine and develop other practical skills such as embroidery and applique.</p>	
<p>Year 9</p> <p>Fabric Journal—textiles skills building project</p> <p>Pyjama project—pattern development and garment construction</p> <p>Recycled tote bag project-sustainability and combining textile techniques with construction methods.</p> <p>Theory— fibres and fabrics</p>	<p>Year 10</p> <p>Skills building project to develop skills in construction such as seams, hems, fastenings.</p> <p>Mock non—examination assessment (NEA) example project— educational toy.</p> <p>Core theory knowledge</p> <p>Specialist theory knowledge</p>	<p>Year 11</p> <p>Students complete the GCSE Design and Technology NEA task.</p> <p>General theory revision examination practice</p>
<p>Year 12/13</p> <p>A-Level fashion and textiles—Practical skills based projects.</p> <p>Theoretical knowledge of technical principles and design and make principles.</p> <p>NEA context selection and completion of project.</p>		



Technology Assessment Guidance

The nature of the subject demands a specific approach whereby practical activities are primarily assessed in real time and the teacher concerned seeks to develop a relationship with the student that facilitates the deployment of a coaching model. This is under-pinned by traditional teaching in relation to the relevant theoretical knowledge associated with each subject. Each of these distinct requirements have a series of associated assessment techniques: In practical tasks, through the observation of individual student progress, short-term assessment takes the form of verbal feedback, support and practical demonstration. Mid-term staging points and summative assessment methods are used to arrive at a final assessment of the “finished product” and the associated documentation linked to a series of criteria either defined by the Academy (Years 7 and 8) or an external examination board (Years 9-13). Where the practical activity is associated with an external qualification, feedback is given in accordance with the examination board rules and guidelines. Theoretical component assessment is usually carried out as a series of written tasks or through an online learning environment. These are either formally assessed by the relevant teacher or by the online learning environment itself. In written form, assessment comprises praise, feedback and where relevant a score or grade/level. Where the assessment is online, specific feedback and scores are provided. The validity and reliability of the techniques described above is corroborated by the design of a seven year Scheme of Learning whereby the content and assessment methods found at A’ Level are replicated in GCSE and in Years 7 and 8 albeit at a more basic level. Students derive value from the framework in terms of immediacy of feedback and through their understanding of the way they are being assessed against a series of shared criteria. This serves to identify gaps in their knowledge/evidence. Teachers derive value from the framework in that they can use the assessment data to inform module grades and written report content and through more detailed analysis, identify modifications to the associated Scheme of Learning for delivery to future cohorts.

