



## Curriculum Intent – Design Technology

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| The <b>purpose</b> of our curriculum                                           | At KS3, the purpose of our curriculum is to provide students with a rich exploration of all elements of design technology, design communication, textiles and timbers. Students develop a grounding in the specialised technical tools, processes and techniques needed to fully achieve in their chosen fields in KS4. Students cover the 'core content' on a superficial level to give them an insight into the GCSE course in design technology. Students also enhance their problem-solving abilities through critical thinking and a variety of approaches to design and making scenarios. It is essential that students understand how to be safe in the workshop and work according to key principles aimed to keep them safe. Importantly, they will build resilience when things go wrong and be able to analyse their own work to understand how to develop and improve. At KS4, students develop their understanding through the complete study of core theory and a specialism of either timbers or textiles. Using their detailed knowledge, students then complete their Non-exam assessment in which they respond to a contextual challenge via research, design, making and evaluating.                                                                                                                                                                                                                                                                                     |
| How does the curriculum <b>demonstrate progress?</b>                           | <p>At KS3, the impact of learning is measured formally through both booklet work and practical making skills. At KS4, students are challenged with more in-depth practical work and the use of end of topic assessments. Throughout year 10, students cover as much of the core content and specialisms as possible so that in year 11 the first 2 terms can be spent on the Non-exam assessment. PLC grids will be used to support marking in both theory and practical work and to clearly show gaps in knowledge as students make progress through each unit.</p> <p>Units in the design technology curriculum have been carefully allocated to allow for knowledge, understanding and skills to be embedded, ensuring a change in long term memory in students as they progress through their studies. In this way, students can use their prior learning to make synoptic links and build a more secure long-term understanding of design technology as they move through the course. For example, unit 1 (Core DT Textiles) prepares pupils well for the 'bag making' unit which then provides students with a good theoretical understanding of the making process to support them as they move into timbers. In this example, students are better prepared to study a design and making challenge because they increase in difficulty and skill level across the year.</p> <p>All students receive one lesson per fortnight in each discipline (to enable smaller class sizes).</p> |
| How and why do you <b>organise/sequence your curriculum in the way you do?</b> | The course has been designed to embed and develop skills, in both practical making from timber and textiles to designing and critical thinking, which students can then take forward and be of benefit in KS4, further education, careers and personal life.<br>Students develop their prior knowledge and understanding and build a more secure long term understanding of the core units within Design Technology.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| How do skills <b>develop over time?</b>                                        | The units prepare pupils to work independently with a range of increasingly demanding and complex practical skills which are needed at GCSE level. These skills include an understanding of the creative and technical processes, equipment and machinery required in order to make a high quality prototype. They will need to critique, communicate and evaluate their own ideas and the work of others. Core material knowledge, practical and designing skills are built upon by developing confidence and encouraging pupils to become effective problem solvers. The curriculum provides a broad and varied selection of material topics that promotes deep thinking, allows the pupils to think, retrieve information and apply to engage in with the wider world.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                                     | Year Group                        | Autumn 1                                                                                                                                                                                                                                                                                                      | Autumn 2                                                                                                                                                                     | Spring 1                                                                                                                                                                                                                                                                                                                  | Spring 2                                                                                                                               | Summer 1                                                                                                                                          | Summer 2                                                                                                                              |
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| What will be taught?                                                | 7                                 | Core DT Textiles: bag unit Assessment:                                                                                                                                                                                                                                                                        | Research APP grid                                                                                                                                                            | DT Timbers: Spatula unit from Core textiles                                                                                                                                                                                                                                                                               | Assessment :Making APP                                                                                                                 | Assessment: Making APP from DT timbers<br>Design communication project – Jon Burgerman                                                            |                                                                                                                                       |
|                                                                     | 8                                 | Core DT Textiles pencil case unit                                                                                                                                                                                                                                                                             | Assessment: Unit test                                                                                                                                                        | DT Timbers: Block bot unit from Core textiles                                                                                                                                                                                                                                                                             | Assessment: Making APP                                                                                                                 | Design communication project – Design drawing - isometric                                                                                         |                                                                                                                                       |
|                                                                     | 9                                 | Core DT Textiles Chicken buddy                                                                                                                                                                                                                                                                                | Assessment: Unit test                                                                                                                                                        | DT Timbers: Pencil case unit from Core textiles                                                                                                                                                                                                                                                                           | Assessment: Making APP                                                                                                                 | Design communication project - CAD                                                                                                                |                                                                                                                                       |
|                                                                     | 10                                | New emerging technologies<br><br>Textiles project<br>Assessment: Unit test                                                                                                                                                                                                                                    |                                                                                                                                                                              | Metals, smart materials, energy resources, scales of production<br><br>Ball bearing game<br>Assessment: Unit test                                                                                                                                                                                                         |                                                                                                                                        | Woodwork project, basic skills and core theory timbers<br><br>NEA (Non-exam assessment) preparation<br>Assessment: Mock<br>Assessment: Making APP |                                                                                                                                       |
|                                                                     | 11                                | NEA – Design ideas / responding to the contextual challenge<br><br>Core theory                                                                                                                                                                                                                                | NEA – Design process<br><br>Core theory                                                                                                                                      | NEA – Prototyping Making<br><br>Core theory                                                                                                                                                                                                                                                                               | NEA – Evaluation<br><br>Core theory                                                                                                    | Exam preparation and revision – core theory and specific content (timbers and textiles)<br><br>Core theory                                        | End of course                                                                                                                         |
| What key concepts /core skills / themes are covered each half term? | 7<br><br>One lesson per fortnight | Students are introduced to safety in the textiles room and some basic skills in Core Textiles. Students will learn how to use a sewing machine and traditional textile technique of Applique. Introduction to natural fibres.<br><br>Students will gain an understanding of a 'design and make' focused task. | Students will assess and critique their own ideas along with producing a useable bag using the skills and techniques from this unit.                                         | Students are introduced to safety in the workshop and some basic skills in Core Timbers. Students will learn how to use basic wood working equipment and the importance of sanding and finishing. Introduction to softwood and hardwoods.<br><br>Students will gain an understanding of a 'design and make' focused task. | Students will assess and critique their own ideas along with producing a beech spatula using the skills and techniques from this unit. | Students will develop their freehand drawing skills. Drawing techniques are taught so that designs can be translated in diverse ways.             | Students will develop their freehand drawing skills. Drawing techniques are taught so that designs can be translated in diverse ways. |
|                                                                     | 8<br><br>One lesson per fortnight | Students develop their prior knowledge with the sewing basics and are introduced to further decorative and construction techniques. Introduction to Synthetic fibres                                                                                                                                          | Students build on their skills and broaden their knowledge of traditional and modern textile techniques.<br><br>Students will assess their own ideas and the work of others. | Students will shift their focus to timbers skills with a project to develop confidence in the workshop. A key part of this unit is addressing health and safety as well as developing being introduced to specialist timber machinery.                                                                                    | Students will assess their own ideas and the work of others.                                                                           | Isometric, perspective, and freehand drawing techniques are taught so that designs can be translated in diverse ways.                             | Isometric, perspective, and freehand drawing techniques are taught so that designs can be translated in diverse ways.                 |

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|                                                                     |                               | Students investigate the basics of the properties and types of Textiles.                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                          |
| What key concepts /core skills / themes are covered each half term? | 9<br>One lesson per fortnight | Students will enhance their sewing and material skills in Textiles through the 'chicken buddy' project. Students will gain an understanding of working to a brief and specification.<br><br>Students will build on their skills and broaden their knowledge of the production of natural and synthetic materials. | Students will enhance their sewing and material skills in Textiles through the 'chicken buddy' project. Students will gain an understanding of working to a brief and specification.<br><br>Students will build on their skills and broaden their knowledge of the production of natural and synthetic materials. | Students will enhance their manufacture and material skills in Timbers through the 'Pencil case' project. Students will gain an understanding of working to a brief and specification.<br><br>Students will build on their skills and broaden their knowledge of the production of manufactured boards and materials. | Students will enhance their manufacture and material skills in Timbers through the 'Pencil case' project. Students will gain an understanding of working to a brief and specification.<br><br>Students will build on their skills and broaden their knowledge of the production of manufactured boards and materials. | Isometric, perspective, and CAD techniques are taught so that designs can be translated in diverse ways.                                                                                                                                                                                                                                                          | Isometric, perspective, and CAD techniques are taught so that designs can be translated in diverse ways. |
|                                                                     | 10                            | Pupil's will assess the need for new and emerging technologies along with the carbon footprint caused and any ethical issues that may arise<br><br>Core textiles and technical textiles are covered in a practical session. Practical projects are linked to a specific unit within the non exam assessment.      |                                                                                                                                                                                                                                                                                                                   | Metals and smart materials are covered in a range of practical sessions.<br><br>Practical projects are linked to a specific unit within the non exam assessment.                                                                                                                                                      | All classes will study the specific content from the timbers units of the specification<br><br>A tailored woodworking project to enhance confidence and skills. Students will gain an understanding of the methods of joining timber.                                                                                 | All classes will study the specific content from the timbers units of the specification. Properties of softwoods and hardwoods are taught in more detail along with manufacturing process and stock form<br><br>A tailored woodworking project to enhance confidence and skills. Practical projects are linked to a specific unit within the non exam assessment. | Students look at Non exam assessment mock for the first time.                                            |
|                                                                     | 11                            | NEA: Students will complete their initial research and user requirements in response to the contextual challenge; they will also write their brief and specification<br><br>Theory: Students will be refreshed with lessons a about smart materials, and metals                                                   | NEA: Students will complete a series of designs which show development and links back to the user requirements and spec. A final design will be produced and include isometric drawing and CAD<br><br>Theory: Students will be refreshed with lessons a about working properties, papers and boards, past and     | NEA: Students will make their prototype design in the workshop<br><br>Theory: Students will be refreshed with lessons a about timbers, drawing techniques, textiles and technical textiles.                                                                                                                           | NEA: Students will complete a thorough evaluation of each section of their NEA before submitting<br><br>Theory: Students will be refreshed with lessons a about mechanics, manufactured boards, and environmental impacts                                                                                             | Series of theory revision lessons                                                                                                                                                                                                                                                                                                                                 | End of course                                                                                            |



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