

# Technology

**Staff members: Mr Burns, Miss Green, Miss Kirby, Miss Jones**

## Curriculum rationale:

The Technology faculty strive to provide an exciting and inspiring experience for our pupils, embracing the principals of the national curriculum. We expect our pupils to become informed, successful and creative learners who can empathise with others and produce solutions to problems. Our broad and balanced 'multi-discipline' curriculum both encourages and challenges our pupils to persevere and only accept their very best. With our enthusiasm and encouragement, we will promote a love for learning in each of the disciplines within the faculty.

Technology is made up of Design Technology (DT) and Hospitality & Catering (H&C). During each academic year in Key Stage 3 and 4, pupils will experience a balanced curriculum where weekly lessons are split between theory and practical knowledge. Programmes of study have been developed to cover Food Technology, Food hygiene and building a repertoire of practical skills, Nutrition & balanced diet, Materials, Designing and modern industrial systems and processes such as computer aided design (CAD) & computer aided manufacture (CAM).

The Technology Threshold Concepts are the over-arching ideas and concepts that we include within our teaching. These concepts are what we use to ensure pupils achieve mastery within Technology and the individual subject areas. These have been developed by Technology specialists across the trust.

| Design and Technology  | Hospitality and Catering  |
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| <ol style="list-style-type: none"><li><b>Research:</b> Projects will develop a range of research and exploration skills, such as the study of different design influences to identify and understand user needs working from a variety of briefs.</li><li><b>Design &amp; develop:</b> Pupils will utilise their research to communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling and computer-based tools (such as Google SketchUp and 2D Design).</li><li><b>Analyse and Evaluate:</b> Pupils will test, evaluate and refine their ideas and products against their specifications, taking into account the views of intended users and other interested groups such as their peers and family.</li><li><b>Manufacture:</b> Projects will develop pupils' abilities to select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture using the laser cutter and engraving machine.</li></ol> | <ol style="list-style-type: none"><li><b>Hospitality and Catering in Industry ( theory):</b> Pupils learn about all aspects of the vocational sector; they acquire knowledge of all aspects of the industry and propose new hospitality and catering ideas. Pupils will learn about different types of establishments and job roles which will then be applied in relations to front of house and kitchen operations, furthermore pupils will learn about how to efficiently operate hospitality and catering provisions legally and financially whilst meeting the needs of the potential market.</li><li><b>Hospitality and Catering in Industry (practical):</b> Pupils learn how to safely prepare, cook and present nutritional dishes. They will draw on their learning of different types of provisions, kitchen and front of house operations as well as personal safety in their preparations.</li></ol> |

The threshold concepts have been decided upon as they are the crucial aspects in which pupils will need to be successful to ensure they are progressing and becoming masters of each individual subject. Our concepts have been drawn from our KS4 curriculums and what we expect students will be able to demonstrate and know once they have navigated through Years 7-9, allowing them to be successful learners in Years 10 & 11. These concepts allow pupils to thoroughly develop the necessary knowledge and skills. Our curriculum ensures powerful knowledge can be accessed by carefully plotting the route our pupils will follow and exposing them to topics such as areas of industry where they learn valuable information and then embed this within their own work; both practical and theory. Our curriculum is specifically tailored to allow pupils to fully immerse themselves into Design Technology and Hospitality & Catering, empowering them to have a more well-rounded understanding of how our subjects provide significant positive changes in society. We are ambitious and inspiring and use this to introduce our students to experts within our industries; British designers, design movements and key examples from the Hospitality & Catering profession are all embedded within our balanced curriculum. Including experts



from our subjects allows our pupils to be influenced by high quality work and design and is essential to be able to access deeper understanding and cultural capital for Design Technology and Hospitality & Catering.

### **Curriculum overview:**

Pupils arriving at Dean Trust have had greatly differing experiences of Technology. Our KS3 curriculum supports pupils in developing a deep and thorough understanding of Design Technology and Hospitality & Catering, regardless of their starting point; all pupils gain the same knowledge from the start of KS3. By designing our curriculum to support and challenge in incremental steps, we allow pupils to combine information with practice and develop their understanding about the world of technology.

### ***Learning and progress throughout KS3***

#### **Year 7**

At the start of Year 7, pupils will complete a baseline assessment mini project to introduce them to some key areas of focus that they will experience throughout their time in KS3. They will then complete two projects; one in Design Technology and one in Hospitality & Catering. Pupils will study core theory enabling them to develop the knowledge of materials and properties before working on skills and techniques in order to be able to complete practical lessons safely. Pupils will learn workshop and kitchen safety whilst making a variety of products using various ingredients and materials. During the Summer term, pupils will revisit their earlier baseline mini project and will work on their computer aided design and computer aided manufacturing skills before manufacturing their final idea.

#### **Year 8**

In Year 8, pupils will continue to develop their skills in the workshop and kitchen rooms by completing a long-term project in each discipline. Pupils will participate in projects such as the design movement desk light and food provenance. Food provenance supports pupils understanding of where food comes from and how it gets to our plates, practical lessons are focused on the production of bread-based products. The design movement desk light is a materials-based project where pupils will begin to develop their understanding of inspirational designs and movements and use this to inspire their final product. Pupils will be able to design and create their products using a range of skills, including developing the ability to solder.

#### **Year 9**

In Year 9, pupils will begin to develop their abilities and qualities as a product designer as they navigate through 2 challenging projects, set out in a GCSE format. Pupils will be able to design and create their products using a range of skills, including developing the ability to design by hand, use 2D Design software and the laser cutter. Pupils will develop their knowledge and understanding of material areas as well as being prepared for GCSE or Design Engineering, should they wish to choose these as option subjects. In Hospitality & Catering, pupils develop an understanding of how the hospitality and catering sector operates by learning about different establishments, how they are run and the job roles within them as well as learning about specific commodities and how to use them in a practical setting. In practical lessons pupils will continue to develop their skills in preparation for Key Stage 4 and life outside of DTA.

### ***Learning and progress throughout KS4***

#### **Year 10:**

Design and technology in Year 10 focuses on exposing pupils to all materials in both theory and practical based projects. Pupils will develop specialist core knowledge that will be applied to exam style questions and linked to industry. During the year, pupils will complete small projects and non-exam assessment style work ahead of the exam board release date in June. When the exam board release the NEA (non-exam assessment) focus, all pupils will begin to put their knowledge into practice to develop a professional portfolio of evidence alongside a high-quality practical product. This work is the main focus for the pupils until February of Year 11.

#### **Year 11:**

Continuing with the non-exam assessment (NEA) that was started in June of Year 10, pupils will be straight back into their portfolio work. It is expected that pupils have achieved up to a specific point when they leave for summer in Year 10. Upon their return, pupils will be completing their research elements and begin designing and developing their designs alongside creating functional 3D models throughout the first term. As December



approaches, pupils will begin to test and manufacture their prototypes whilst also evaluating against their chosen criteria, finishing their non-exam assessment by February. During Year 11, pupils will also continue to learn and consolidate the theory elements to GCSE design and technology ahead of the summer exams. The professional portfolio and practical product will finally be moderated by the exam board.

### **Key Stage 4 Engineering Design**

#### **Year 10:**

In Year 10 pupils will complete 2 of their 4 units. These units consist of 25% of their final grade and are where pupils will learn about the design cycle process, working with a client, design briefs and specifications, properties of materials and hand drawing skills amongst other topics. Pupils will experience a range of theory and practical lessons allowing them to complete a detailed written portfolio and a high-quality practical product. Pupils will then complete their exam for this course at the end of year 10.

#### **Year 11:**

Year 11 is where our pupils will complete the final 2 units of their course, making up the final 50% of their overall grade. Pupils will be expected to develop detailed analysis and understanding of manufacturing processes and choices made by designers and manufactures. They will be introduced to new information and recover previous learning to allow them to complete their final 2 units of work. Within this year, pupils are expected to be able to work more independently to complete their portfolio of evidence and also when completing practical assessment work.

### **Key Stage 4 Hospitality and Catering**

#### **Year 10:**

Throughout Year 10 pupils will be learning about the hospitality and catering industry through five learning objectives.

LO1 Understand the environment in which hospitality and catering providers operate

LO2 Understand how hospitality and catering provisions operate

LO3 Understand how hospitality and catering provision meets health and safety requirements

LO4 Know how food can cause ill health

LO5 Be able to propose a hospitality and catering provision to meet specific requirements

Theory lessons will focus on pupils working towards the Unit 1 exam which will be taken in June of Year 10. In practical lessons pupils develop their catering skills through focused projects each half term. These focused projects allow pupils to consolidate learning from previous years and build new knowledge that is required for both their theory and practical exams.

#### **Year 11:**

Year 11 sees our pupils begin producing their Unit 2 non-exam assessment work where they will spend their final year undertaking three tasks in order to complete this unit:

- Task 1 is focused on detailed knowledge and understanding of nutrients, their uses and the effects of excess and deficiency. Pupils also will be expected to complete controlled assessment work on the nutritional needs of specific groups of people before using research and previous experience to begin the planning of possible dishes they could cook for their practical exam based on the assessment brief given set by the exam board.
- Task 2 is where pupils will start the planning of their proposed dishes for the assessment brief.
- Task 3 is the practical making of the planned dishes and the final evaluation of each dish, the process and the quality produced overall.

All parts of the non-exam assessment will be submitted to a final external moderator by early May of year 11. Pupils may also be expected to resit their final exam if they underperformed in year 10.

