Curriculum Progression Pathway

DESIGN TECHNOLOGY

Design Technology

Why is the study of Design and Technology important?

Design and Technology is a practical and valuable subject. It enables you to actively contribute to the creativity, culture, wealth and well-being of yourself, your community and your nation. It teaches you how to take risks and so become more resourceful, innovative, enterprising and capable. You will develop a critical understanding of the impact of design and technology on daily life and the wider world. Additionally, it provides excellent opportunities for you to develop and apply value judgments of an aesthetic, economic, moral, social, and technical nature both in your own designing and when evaluating the work of others.

The subject at Outwood Academy Acklam is split up into the following categories:

- **KS3 Design and Technology:** Design and making in wood, set design, electronics and textiles.
- **KS3 Catering: Developing skills in cooking and exploring the main food groups.**
- **KS4 3D Design:** Work with a broad range of design and making techniques to follow the process of industry professionals to develop an outcome to a brief.
- **KS4 Hospitality and Catering:** Plan and create dishes to meet customer requirements and learning about the Hospitality & Catering industry.

What skills will the study of Design and Technology teach you?

Design and Technology applies knowledge, skills and understanding from within the subject itself, and also a wide range of other sources such as science and mathematics.

Design and Technology will teach you to:

- Develop resilience by not being afraid of challenges when solving problems, but to break them down and keep trying.
- Be creative in developing solutions to real world problems.
- Use modelling and annotated sketches to develop and communicate ideas.
- How to act responsibly within a practical environment thinking of the safety of yourself and others.
- Identify how to competently use a range of practical techniques across a range of disciplines.

- Work independently and part of a team to solve complex problems.
- Construct reasoned arguments to ethical, social and moral problems that have arisen due to technology and communicate these effectively.
- Identify links between different materials and contextual references.
- Test, evaluate and refine ideas and products against a specification, taking into account the views of intended users and other interested groups.
- Understand and apply the principles of nutrition and health.
- Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.
- Become competent in a range of cooking techniques e.g. selecting and preparing ingredients: using utensils and equipment, applying heat in different ways: awareness of taste, texture and smell to decide how to season dishes and combine ingredients, adapting and using their recipes.
- Understand the source, seasonality and characteristics of a broad range of ingredients.

What will you know and understand from your study of Design and Technology?

- How to classify materials and discuss their physical properties.
- How to manufacture products with reference to their materials physical properties.
- How to use and adjust equipment and machinery depending on the task.
- Use learning from science and mathematics to help design and manufacture components and products.
- To consider the influence of a range of lifestyle factors and consumer choices when designing and analysing products.
- To know and understand additional factors to consider such as ergonomics, anthropometrics or dietary needs.
- To use a variety of approaches, for example biomimicry and user-centred design to generate creative ideas and avoid stereotypical responses.
- To evaluate their work against an increasing range of designers, engineers, chefs, technologists and manufacturers and be able to relate their product to their own designing and making.
- To evaluate products through disassembly to determine how they are constructed and function and consider the life cycle analysis.

What will you know and understand from your study of Catering?

- To competently use a range of cooking techniques for example, selecting and preparing ingredients; using utensils and electrical equipment.
- The principles of nutrition and health including energy, nutrients, water, fibre, diet and health and nutritional needs throughout life and the risks of an unbalanced diet.
- A repertoire of predominantly savoury dishes in line with the principles of the Eatwell Guide.
- To feed oneself taking into account personal preference, socio-economic aspects, nutritional and health needs.
- Healthy and varied diets as depicted in the Eatwell Guide and 8 tips for healthy living.
- To explore the origin and product of food products and ingredients.

- To consider how seasons may affect foods available.
- To consider the function, nutrient profile and sensory attributes of ingredients.
- To study a range of food commodities eg. cereals, fruits, vegetables, meat, fish, eggs, fats/oils, milk dairy food products.
- To develop a range of preparation, cooking and presentation skills.
- To plan menus for a range of individual and nutritional needs.
- To prepare and cook safely to prevent food poisoning.
- To explore the effect of advertising, marketing and packaging on food choice.

How does your study of Design Technology support your study in other subjects?

Design Technology develops a number of skills that will support your study of other subjects, as so many of the skills you will acquire in Design Technology are transferable. Design Technology disciplines will develop your focus, resilience, self-expression, teamwork, mathematical skills and problem solving and communication skills, which will help you in **all** of your other subjects. It will give you an opportunity for creative expression and practical thinking and encourage you to think about how to improve and fine tune designs and encourage healthy eating etc. Some students may take this even further and discover a subject that provides them with a life-long hobby or career that enhances their life for years to come. The ability to think creatively and problem solve are crucial in Engineering, Mathematics and Science. It will foster an interest and skill in cooking and may lead to study of subjects such as catering etc.

How can you deepen your understanding of Design Technology?

To enhance your work in lessons, there will be times when we explore the professional workplace and wider design practices and materials. This will deepen your understanding of professional work and introduce you to new techniques and ideas.
You will also have the opportunity to deepen your understanding of Design Technology disciplines through extracurricular opportunities, where you can continue to develop your creative ideas, or work on specific design projects.
There may also be an opportunity to participate in trips as well as exhibiting your own work within the Academy. Occasionally, there will be opportunities to enter national or Trust competitions to gain additional audiences and recognition for your work.

How are you assessed in Design Technology and Catering?

Throughout the 5 years in Design Technology and Hospitality and Catering you are assessed using the following assessment objectives which ensure that you can cumulatively build your subject understanding in preparation for future GCSE and A Level study. There are timely assessment points each year that we term Praising Stars©. In the lower years before certificated study we assess how students are performing against age related expectation and as students' progress on to GCSE courses we assess how their current stage of study reflects how they are on track to reach their end of KS4 targets which are formulated on aspirational expectation from their KS2 starting points. For both lower and upper years we make an informed judgement from our holistic assessments based on our subject mapping of expectation across the Design Technology curriculum.

Assessment Objectives in 3D Design

- AO1 – Develop ideas through investigations, demonstrating critical understanding of sources
- AO2 – Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes
- AO3 – Record ideas, observations and insights relevant to intentions as work progresses
- AO4 – Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language

Assessment Objectives in Hospitality and Catering

Unit 1 - Exam - The Hospitality and Catering Industry

- LO1: How hospitality and catering providers operate
- LO2: How hospitality and catering providers operate
- LO3: Health and safety in hospitality and catering
- LO4: Food safety in hospitality and catering

Unit 2 - Controlled Assessment - Hospitality and Catering in Action

- LO1: The importance of nutrition
- LO2: Menu planning
- LO3: The skills and techniques of preparation, cooking and presentation of dishes
- LO4: Evaluating cooking skills

How can Design Technology support your future?

Of course, we offer the study of GCSE and Level 1/2 Vocational courses and we encourage your continued study in this fantastic subject. Yet we know that choice and personal interest are important aspects of worthy study. Whether you have continued to study a discipline of Design Technology into GCSE or A-Level or not you will have gained access to this wide enriching subject and its study of the various disciplines will have taught you to think differently and deeply.

Design courses are offered at most prestigious universities and there are many technical and vocational qualifications that can be studied in engineering, product design, graphics, electronics, catering, nutrition etc as well as routes into apprenticeships etc. The very fact that you have been able to study creative thinking, problem solving, planning and design principles will help your future applications be they for colleges, universities, apprenticeships or employment.

Careers linked to Design Technology:

- Product Designer
- Civil engineer
- Interior Designer
- Graphic Designer
- Fashion Designer
- Branding designer
- Scenery/Prop designer
- Catering
- Nutritionist

- Food technologist
- Manufacturing Engineer / manager
- Architect
- Construction
- Aerospace engineer

The list is endless as study of Design Technology opens up a world of opportunities

DESIGN AND TECHNOLOGY PROGRESSION PATHWAY AT OUTWOOD ACADEMY ACKLAM

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Litter Picker Project in Product design, Essential Skills in Food or Essential skills in Textiles with a focus on creating a felt keyring.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Litter Picker Project in Product design, Essential Skills in Food or Essential skills in Textiles with a focus on creating a felt keyring.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Litter Picker Project in Product design, Essential Skills in Food or Essential skills in Textiles with a focus on creating a felt keyring.	

Year 8	Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Set Design Project in Product design, Food Ethics & Sustainability in Food or Alique Sugar Skulls in Textiles.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Set Design Project in Product design, Food Ethics & Sustainability in Food or Alique Sugar Skulls in Textiles.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Set Design Project in Product design, Food Ethics & Sustainability in Food or Alique Sugar Skulls in Textiles.	
Year 9 D&T	Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Aroma Cube in Product design, Food Commodities in Food or Drreamcatchers in Textiles.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Aroma Cube in Product design, Food Commodities in Food or Drreamcatchers in Textiles.		Students in DT operate on a carousel, changing each term (13 lessons) and will either study: Aroma Cube in Product design, Food Commodities in Food or Drreamcatchers in Textiles.	
Year 10 3D Design	Introduction to 3D Design, designing and modelling new and original products. Kitbashing, sketchup/blender, laser cutting and 3D printing.	Myths and Monsters: Brief relating to set, prop and costume production for Netflix. Research to inform the design process. Generating initial ideas and conveying them in both 2D and 3D forms.	Myths and Monsters: Researching existing designs: Looking at the work of existing 3D designers to support our ideas development.	Myths and Monsters: Exploration of texture - sustainable methods of texturing model makes to add detail to potential outcomes.	Myths and Monsters: Exploring materials, making methods and developing our ideas through experimentation including use of sketchup/blender, 3D printing and laser cutting where appropriate.	Myths and Monsters: Construction, refinement and completion of personal and meaningful final outcome informed by experimentation.
Year 11 3D Design	Myths and Monsters: Exploring materials, making methods and developing our ideas through	Myths and Monsters: Construction, refinement and completion of personal and	Externally Set Assignment Students are given a theme to develop by the exam board. The students have access to the exam paper to choose their starting point from the start of January. They are encouraged to explore their own personal interests whilst engaging with the work of craftspeople and designers to aid in development of a personal response.			

	experimentation including use of sketchup/blender, 3D printing and laser cutting where appropriate.	meaningful final outcome informed by experimentation.	This project is a shorter concise investigation from an initial starting point, recording the journey through research pages and mock-ups, large scale pieces and annotation to explain ideas and context. Students explore relevant making techniques ensuring refinement of outcome and the inclusion of drawing to refine and communicate ideas.			
Year 10 Catering	Unit 1.4: How hospitality and catering providers ensure food safety ●The ways in which food can cause ill health ●How food related ill health can be prevented through control measures ●Practical lessons which recap basic culinary skills	Unit 1.4: How hospitality and catering providers ensure food safety ●Food safety legislation ●The role and responsibilities of an environmental health officer ●Topic assessment ● Practical lessons making more complex dishes	Unit 1.1 How hospitality and catering is provided ●The different types of catering and accommodation establishments ●Various roles working within hospitality and catering ● Practical lessons making more complex dishes	Unit 1.1 How hospitality and catering is provided ●The personal attributes and qualifications required of hospitality and catering job roles ●The factors that contribute to successful hospitality and catering businesses ●Topic assessment ● Practical lessons making more complex dishes	Unit 2 ●Preparation for the controlled assessment they will complete in Year 11. ●The function of nutrients in the human body ●The nutritional needs of specific people relating to age and specific dietary requirements. ●How cooking methods impact the nutritional value of food. ●Mock assessment brief	Unit 2 ●Production plan for two chosen dishes ●Prepare, cook and serve dishes under exam conditions in mock practical exam ●Evaluate final outcomes and own performance. ●Mock written exam

Year 11 Catering	Unit 2 - Non exam assessment ●Recap learning on nutrition ●Issued with an assessment brief from the exam board. ●Plan, prepare, cook, serve and evaluate two dishes that suit the two customers stated within the brief. ●12 hours in which to complete their planning, practical work and evaluation. ●Practical lessons in preparation for their practical assessment	Unit 2 - Non exam assessment ●Recap learning on nutrition ●Issued with an assessment brief from the exam board. ●Plan, prepare, cook, serve and evaluate two dishes that suit the two customers stated within the brief. ●12 hours in which to complete their planning, practical work and evaluation. ●Practical lessons in preparation for their practical assessments.	Unit 1.2 How hospitality and catering providers operate. ●Running of the kitchen and front of house within an establishment ●How hospitality and catering providers meet the changing needs of customers and the rights they have.	Unit 1.3 How hospitality and catering providers ensure health and safety ●Responsibilities for personal safety of both employers and employees in relation to laws ●The key principles of HACCP to ensure food safety.	Unit 1 Revision & Exam technique in preparation of end of year exam	N/A