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Subject Design and Technology

Curriculum vision

An inherent aspect of the human condition is the need to create. Art and technology subjects are a positive reflection of the human experience and through each individual discipline students in our subjects have the power to influence others.

Art and technology subjects are about escapism, in our lesson's students celebrate expression; this helps them to understand the world around them and improves mental wellbeing. Art and technology subjects develop life skills. Students in our subjects learn process and improve through practise. Students in our subjects recognise that mastery will lead to freedom to expression.

The art and technology subjects are part of our cultural and social identity. Art and technology students are accepting of others; our subjects have the power to break down barriers, uniting people with a sense of pride and enjoyment. Through art and technology subjects' students learn to appreciate their environment, and in so doing should always aim to improve it.

Students will demonstrate passion and enthusiasm for our subjects through understanding, self-discipline, mastery and intellectual thinking. Art and technology lessons provide you with something different and meaningful. In our lessons you will feel pride, ownership and recognise the value of your own and others' work.

Passion is at the core of art and technology subjects, where students create and share. Our subjects are a celebration of expression, and the enjoyment students feel in art and technology lessons. Art and technology subjects are of the utmost importance, our overarching aim is to encourage independence and ambition. Students in our subjects recognise and encourage values such as resilience, equality, support, trust, and honesty. The art and technology subjects are part of a broad education, in these lessons' students appreciate the interconnectivity of the world around them.

Art and technology subjects focus on expression, interpreting and appreciating aesthetics. Students in our subjects explore meaning, making implicit concepts and ideas explicit. Students in our subjects share and communicate what they have learnt and understood. They access emotions, change perceptions and generate connections with their audience.

In our subject students will become creative lifelong learners. These subjects will provide them with access to the creative, food and design industries.

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Curriculum Overview - Key Stage 3

Throughout years 7, 8 and 9 students will complete term-long projects in each of the three specialist areas of Design and Technology, Textiles and Food Technology. The order in which these projects will be completed will vary for each student.

Year 7		Year 8		Year 9	
Project Overview	**Why this? Why now?**	**Project Overview**	**Why this? Why now?**	**Project Overview**	**Why this? Why now?**
D&T Mechanical Card	In this project, students are introduced to using the design process to come up with a finished piece. The mechanical card teaches creativity while working to a specification and encourages creativity in designing.	**D&T** Mood Light	The year 8 project aims to improve student's workshop skills by teaching a range of basic tools and machines, as well as CAD/CAM and the use of the laser cutter. This puts students in an excellent position for taking on the GCSE Design and Technology course in year 10 and 11.	**D&T**	This project will introduce more complex marking out and cutting skills, with students learning how to refine their practical work to ensure a high quality outcome. The further use of CAD/CAM for all will add to the student's skill set.
Textiles Embellished Seascape	This project serves as an introduction to basic core textiles skills that students may not have encountered before. They have the opportunity to use creative skills developed in primary school, with a material area new to them. Students learn about the work of textile artists Shaun Kardinal and Francesca Colussi Cramer.	**Textiles** Aerial Weaving and Macrame	This project builds on textile skills from year 7 and allows students to develop their interest in textiles by focusing on an influential artist, Tammy Kanat, while still allowing for creativity in their work. Students will learn a new diverse practical skill, which contrasts with the skills learned in Year 7.	**Textiles** Applique	In year 9, another textile artist, Angie Lewin, is introduced along with the high-level skill of applique, used alongside embroidery skills learned in year 7. Embroidery can be used to further embellish the applique. This project prepares students to consider textiles as a form of art if they continue it into KS4.

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Food Introduction to Food	In this module students are introduced to the Eatwell Guide in order to make more informed choices of food and develop healthier eating habits. The practical sessions are to ensure safe use of the oven and hob, boiling and simmering plus safe use of knives. Students will be making scones, pasta salad and fajitas.	**Food** Nutrition and raising agents	This module develops further understanding of the eatwell guide and introduces food science to the students. In addition, the practical work focuses on the use of raising agents in bread dough plus higher level skills to make lemon flan and stir fry.	**Food** Nutrition and the Consumer	This module focuses on safe preparation and cooking of high-risk foods and the prevention of cross contamination when using them. Food labelling is also introduced to encourage students to make sensible food choices. Practical dishes in year 9 include swiss roll, sweet n sour chicken, and mac n cheese.

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Curriculum Overview - Key Stage 4 and 5 – Design and Technology

Term 1

	Autumn 1	Why this? Why now?	Autumn 2	Why this? Why now?
Year 10	**Theory: Materials and their working properties, including timbers.** **Project: Block letters**	Student's introduction to GCSE Design and Technology will consist of timbers theory so they become familiar with different timbers and boards, their properties and their uses. This knowledge is then applied in the workshop to design and make block letters which will introduce basic and more complex workshop skills, with the opportunity to extend to CAD/CAM skills.	**Theory: Commercial processes** **Project: Finger jointed wooden box**	The second practical project will introduce more complex marking out and cutting skills, with students learning how to refine their practical work to ensure a high quality outcome. The introduction of CAD/CAM for all will add to their skill set. The theory is based on workshop processes and how they are applied in an industrial setting giving an overview of Technology in the real world.
Year 11	**NEA:** **Section B: Design Brief and Specification** **Section C: Initial Ideas** **Section D: Development of Ideas**	The focus on the NEA is coming up with a wide range of design ideas that are suitable and realistic for their project brief, and this section is completed now as it gets students thinking creatively, and drawing on their knowledge from year 10 about timbers, their properties, their uses, and environmental issues associated with using them.	**NEA:** **Section D: Development of Ideas**	Students will begin to develop their ideas and look at how their product might be made commercially for their NEA – they can draw on the examination theory being learned as part of this and consider if their product is environmentally friendly, are the materials being used from a renewable source, and what might happen to their product at the end of its life.

Year 12	**Theory: Timbers** **Project: Skills based**	Over the course of the year students will cover a range of material areas in depth, and they will start in Autumn 1 learning about timbers. This will include how to work with them and manipulate them using various processes. Over the first term students will encounter a range of skills based projects designed to improve their designing and making skills. This will include CADCAM, technical drawing, practical skills, tradition woodworking and an introduction to working with polymers and metals.	**Theory: Papers and Boards** **Project: Skills based**	The next material area that students will study is papers and boards. This gives them an overview of how to work with this material and incorporate it into their designing. Over the first term students will encounter a range of skills based projects designed to improve their designing and making skills. This will include CADCAM, technical drawing, practical skills, tradition woodworking and an introduction to working with polymers and metals.
Year 13	**NEA - Development**	Students will take their completed initial ideas and develop them through a range of testing, modelling, development, research and evaluation to product a final design solution.	**NEA - Development**	Students will take their completed initial ideas and develop them through a range of testing, modelling, development, research and evaluation to product a final design solution. As part of this, they will also plan how to make their product as well as costing up materials and labour involved in the project.

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Term 2

	Spring 1	Why this? Why now?	Spring 2	Why this? Why now?
Year 10	**Theory: Environmental issues** **Project: Technical drawing**	Students will use their knowledge of how products are created to consider the environmental issues associated with these products and processes. Alongside this they will have the opportunity to study 3D technical drawing in preparation for their GCSE exam.	**Theory: Design process** **Project: Tiny homes - designing**	The term will start by learning about the design process in detail, including user centred design, inclusivity and a range of designers. Students will then focus on one project for two half terms, which will introduce them to the whole design and make process in action. Students will research, design, develop, plan and make a project based on fantasy architectural models. The level of independent work will increase with this project standing them in good stead for their NEA in the Summer term.
Year 11	**NEA:** **Section E: Realising Design Ideas**	Students will spend the majority of this half term making the product that they designed for their GCSE NEA. Using a range of skills that they have learned in KS3 and year 10, picking up new ones as they go and developing skills they learned during the development stage, their final ideas will be realised ready for testing and evaluation.	**NEA:** **Section E: Realising Design Ideas** **Section F: Testing and Evaluation**	The NEA making process finishes during this half term, around mid March, as students then move onto testing and evaluating their product ready to hand in, in time for the school deadline of end of Spring 2.

Year 12	**Theory: Metals** **Project: Hobbies**	The next material area that students will study is metals. This gives them an overview of how to work with this material and incorporate it into their designing. The project this term is based on the word "Hobbies". Students can take this in any way they wish to, and choose to produce a product that will educate others in any topic of their choosing. The focus will be on research and development while working closely with a client to come up with their final idea.	**Theory: Polymers, composites, modern and smart materials** **Project: Hobbies**	The final material areas to be covered are composites, modern and smart materials. This will arm students with a wide range of knowledge that will set them up well for their project. For their project, students will turn their attention to making their product with a high quality final outcome completed by Easter.
Year 13	**NEA: Making**	As projects will have been finalised students will spend the half term bringing their ideas to life using a wide range of practical skills including traditional woodworking, CADCAM, polymers, metalwork etc.	**NEA: Making, testing and evaluating**	As projects will have been finalised students will spend the half term bringing their ideas to life using a wide range of practical skills including traditional woodworking, CADCAM, polymers, metalwork etc. Students will then work with their client to test and evaluate their product to ensure that the outcome is successful and can be developed further if necessary.

Term 3

	Summer 1	Why this? Why now?	Summer 2	Why this? Why now?
Year 10	**Project: Tiny homes (making)**	Students will take their designs and floor plans they have come up with for their client's tiny home and, using a range of card modelling skills that will be introduced to them, will create a time home model from corrugated cardboard. This project will form 50% of their end of year 10 grade.	**NEA (project):** **Section A: Investigating the context**	In the final half term of year 10, students will begin their GCSE NEA (non exam assessment) project worth 50% of their grade. The contexts are released by the exam board on June 1st, and the focus is on analysing and researching the task before the summer holidays so discussions around their design idea can be had over the summer holidays, and students return in year 11 to embark on the designing and making sections.
Year 11	**Core Technical Principles, plus revision**	With NEA completed and handed in, focus turns to examination theory where revision of topics from year 10 happens, and students are introduced to the names and uses of a variety of other materials, preparing them fully to take on the D&T A Level with an excellent knowledge of the relevant topics.		
Year 12	**Theory:** **NEA**	The next section of theory for this year will cover topics relating to design and technology in the wider world including the design process, UCD, inclusive design and the use of ergonomics and anthropometrics in design. Students will begin their A Level NEA project after Easter, with lesson time focusing solely on this, while incorporating designing and making principles alongside it. While the project is not linear, the focus will be on	**NEA**	Students will continue with their A Level NEA, with the focus on development and planning the making of their product. This ensures that they are able to utilise all the skills they have learned throughout year 12 in a timely manner. While the project is not linear, the focus will be on designing creatively and how to develop a product in an iterative manner.

		researching and developing a wide range of ideas alongside a client of their choosing.		
Year 13	**Technical Principles** **Designing and Making Principles**	Students will return to their examination theory at this point to revise all topics previously covered and to practise for their upcoming A Level exams.	**Technical Principles** **Designing and Making Principles**	Students will return to their examination theory at this point to revise all topics previously covered and to practise for their upcoming A Level exams.

Wider reading

Competitions & Associations	**Revision Guides**
• Rotary Technology Tournament • Design Ventura • Arkwright Scholarship **Places to visit** • Design Museum, London • V&A, London • Natural History Museum and Science Museum, London	AQA Design and Technology: timber, metal-based materials and polymers GCSE AQA Design and Technology for grade 9-1 exam: Complete revision and practise (CGP)

Academic Reading

"The Design of Everyday Things" – Don Norman
"Invisible Women: Exposing data bias in a world designed for men" – Caroline Criado Perez
"Dieter Rams: As little design as possible" – Sophie Lovell
"Ten Principles for Good Design: Dieter Rams" – Cees W. de Jong

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Curriculum Overview - Key Stage 4 – Hospitality & Catering

Term 1

	Autumn 1	Why this? Why now?	Autumn 2	Why this? Why now?
Year 10	**Theory:** Unit 1: 1.4 How food causes ill health,1.3.2: HACCP, and 1.3.3 Food safety practices. **Practical**: Students complete a 'back to basics' section to include knife skills, cutting and shaping, sauces, and pastry.	We begin with how contaminated food can cause food poisoning and other food related illness as this is core to all practical work that will be carried out over the 2 years. Being aware of how medical conditions can impact on food intake in a commercial environment. They will re-cap and learning further food safety practices including HACCP. Practical work revisits basic skills to build a foundation for the 2 years to ensure accuracy in knife safety, cutting skills, a basic roux sauce, use of pastry and varied cooking methods	**Theory**: Unit 2.1.1 Understanding the importance of nutrition, and 2.1.2 How cooking methods can impact on nutritional value **Practical**: Developing skills in a variety of dishes to increase skills – pasta and batter. They will also begin to choose dishes that are suitable for a given customer group that highlights skills they have learnt so far.	Students will begin to gain understanding of nutrition and how it can affect our health at different life stages. theory will focus on the role of nutrients in the body and the needs of people throughout their life. They will learn the functions and sources of a range of macro and micronutrients. Students will then move on to learning how different cooking methods can affect the nutrients in our food.
ear 11	**Theory:** Students Will be revising and practicing elements of unit 2, ready to start their NEA in Autumn 2. **Practical**: Portioning a chicken, filleting a fish, mayonnaise, and other complex skills. Revisiting previous skills used.	Students begin their research into the nutritional needs of specific customer groups and then how cooking can affect the nutritional value of food to gain an understanding of what types of food to include in dishes and the best methods to retain the nutritional value. Practical work continues to be varied so students can take these techniques into their own dishes.	Unit 2: NEA **Theory**: Students are responding to a brief given by the exam board to research, plan, prepare and cook several dishes. They are looking at individual nutritional needs and planning menus to meet environmental needs. NEA work on choice of dishes, creating a time plan that will be followed in the 3 hours practical exam in January plus evaluating their dishes and personal performance **Practical work:** Testing dishes for the exam, improving in January	Students begin their research into the nutritional needs of specific customer groups and then how cooking can affect the nutritional value of food to gain an understanding of what types of food to include in dishes and the best methods to retain the nutritional value. Practical work continues to be varied so students can take these techniques into their own dishes. As part of the NEA students need an understanding of how to plan for customer requirements and so dishes must meet this need along with how food production and its impact on the environments. Ideas are now selected and the plan for making is completed ready for the practical exam

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Term 2

	Spring 1	Why this? Why now?	Spring 2	Why this? Why now?
Year 10	**Theory:** Unit 2: 2.2.2 how to plan production and presentation techniques **Practical:** Different types of bread, mousses and coulis	Students will continue to study nutrition to be prepared for the mock in Summer and NEA in Year 11. Students will find out nutritional needs of people at various life stages plus those with specific medical needs to prepare suitable food for them. Students now develop an understanding of the need for planning for production ready for NEA, being able to dovetail a production plan and selecting dishes that will enable them to achieve a grade in the higher mark bands.	**Theory:** Unit 1: 1.2.3 Hospitality and catering to meet specific requirements, 1: 1.2.3 Health and safety in the hospitality and catering provision and 1: 1.2.3 Environmental health officer **Practical:** Portioning a chicken, filleting a fish, sauce making, breading	Practical work develops to introduce students to the need to reduce waste for budgets and also environmental awareness by portioning a whole chicken and then using the parts for different dishes. They will also begin learning more in depth topics from Unit one in preparation for their end of yead mock exams. This will include: • Health & safety Laws • Accident Forms and Risk Assessments • The environmental health officer.
Year 11	NEA Unit 2 **Theory:** Planning, practical exams, and evaluations. **Practical**: Ideas are now selected and the plan for making is completed ready for the practical exam	Student will finalise their planning and complete their practical exam. They will evaluate heir dishes and their own performance.	**Theory:** Unit 1: revision. All LOs The operation of the front and back of House and How the industry meets the needs of customers.	All LOs covered, exam technique and revision. Including: How the industry is structured, the job roles and responsibilities within it. This links to understanding how a provision is successful and meeting the needs of customers. How a Hospitality provision operates both in front and back of house. The focus is on how a provision operates to meet the needs of its customers and their expectations. Food safety laws, Environmental health officer, HACCP. Practical work is not needed as the NEA is complete.

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Term 3

	Summer 1	Why this? Why now?	Summer 2	Why this? Why now?
Year 10	**Theory**: Unit 2: Full NEA practice run through Revision for Unit 1 written mock **Practical:** Puff pastry, glazing, shaping, blind baking, whisking, meringue, piping	Students will revise the theory content before the EOY exam this unit will focus on the front of house roles in hospitality such as reception and restaurant service. Through the summer term they will be completing a practice NEA, which will include a practical mock in summer 2.	**Theory**: Unit 2: Full NEA practice run through Revision for Unit 1 written mock Practical: Students will continue to learn and develop techniques in a variety of dishes. They will have a mock practical exam.	Students will sit their EOY written exam. Unit 2 will continue so students have all the information they require when they complete their NEA under controlled conditions using class notes and homework. Practical work continues to work alongside the need for techniques and dishes to choose from in the NEA. Students will complete a practical mock exam.
Year 11	**Theory**: Exam preparation Unit 1. This will be revision for the summer exam in June 2025	All LOs covered, exam technique and revision.		

Wider reading

Competitions & Associations Rotary Young Chef Competition Future chef	**Revision Guides** Hospitality & Catering level 1 /2 Study & Revision Guide by Anita Tull (Illuminate Publishing) My Revision Notes WJEC Level 1 /2 Hospitality & Catering by Bev Saunders (Hodder Education) CGP Hospitality & Catering Study Guide

Academic Reading

A Taste of My Life by Raymond Blanc
The Science of Cooking by Dr Stuart Farrimond
How Food works DK Books

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Curriculum Overview - Key Stage 4 – Food Preparation and Nutrition

Term 1

	Autumn 1	Why this? Why now?	Autumn 2	Why this? Why now?
Year 10	**Theory:** Fruit and veg **Practical**: Students complete a 'back to basics' section to include knife skills, cutting and shaping, sauces, and pastry.	Students will learn Food hygiene, nutrition, food provenance, food science, and food choice through leaning about the different commodities. Each term will build upon previous knowledge and will have practice opportunities for both NEA tasks to be carried out in yr 11.	**Theory:** Milk, cheese, and yoghurt **Practical**: Developing skills in a variety of dishes to increase skills – pasta and batter. They will also begin to choose dishes that are suitable for a given customer group that highlights skills they have learnt so far.	Learning focused around provenance, hygiene, food science, nutrition, and food choice based on milk, cheese, and yoghurt. **Practice assessment NEA TASK 1:** Denaturation**:** Making mozzarella: **Practice assessment NEA TASK 2**: Plan a dish suitable for some with a special dietary need covered so far (diet related health, allergies/intolerances)

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Term 2

	Spring 1	Why this? Why now?	Spring 2	Why this? Why now?
Year 10	**Theory:** Cereals **Practical:** Different types of bread, mousses and coulis	Learning focused around provenance, hygiene, food science, nutrition, and food choice based on cereals. **Practice NEA TASK 1:** Gelatinisation of sauces experiment **Practice assessment NEA TASK 2:** Plan a dish suitable for some with a special dietary need covered so far (vegetarian). Including costing ingredients	**Theory:** Meat, fish, poultry, eggs **Practical:** Portioning a chicken, filleting a fish, sauce making, breading	Learning focused around provenance, hygiene, food science, nutrition, and food choice based meat, fish, poultry, and eggs. **Practice NEA Task 1:** Aeration with egg whites (how is it effected with other ingredients added) **Practice NEA Task 2:** Plan a dish suitable for some with a special dietary need covered so far (Excess and deficiencies. Omega 3. religious considerations)

Term 3

	Summer 1	Why this? Why now?	Summer 2	Why this? Why now?
Year 10	**Theory:** Butter, Oils, spreads, sugar, syrup **Practical:** Puff pastry, glazing, shaping, blind baking, whisking, meringue, piping	Learning focused around provenance, hygiene, food science, nutrition, and food choice based on butter, Oils, spreads, sugar, syrup Students will revise the theory content before the EOY exam this commodities, nutrition, and food hygiene, food provenance, food science, and food choice. **Practice NEA Task 1:** Emulsification experiment	**Theory:** Soya, tofu, beans, nuts, seeds Revision for Unit 1 written mock Practical: Students will continue to learn and develop techniques in a variety of dishes. They will have a mock practical exam. **Full practice of NEA TASK 2.**	Learning focused around provenance, hygiene, food science, nutrition, and food choice based on Soya, tofu, beans, nuts, seeds. Students will sit their EOY written. exam. Theory around commodities will continue so students have all the information they require when they complete their NEA under controlled conditions using class notes and homework. Practical work continues to work alongside the need for techniques and dishes to choose from in the NEA. Students will complete a practical mock exam.

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Wider reading

Competitions & Associations Rotary Young Chef Competition Future chef	**Revision Guides** CGP GCSE Food Preparation & Nutrition WJEC Eduqas Complete Revision & Practice/workbook My Revision Notes: WJEC Eduqas GCSE Food Preparation and Nutrition
Academic Reading A Taste of My Life by Raymond Blanc The Science of Cooking by Dr Stuart Farrimond How Food works DK Books	