

KS3 Design and Technology Curriculum Map

Year Group	Rotation A – 19 – 20 Hours Product Design 1- MHu	Rotation B - 19 – 20 Hours Product Design 2- JBu	Rotation C - 19 – 20 Hours Food and Nutrition- ACR / CBr
7	<p><u>Block Head Design and Make Task (10 hours)</u></p> <ul style="list-style-type: none"> -Timber theory and sustainability -Shaping and forming timber (Subtractive and assembly manufacture) -Isometric drawing -Production plans <p><u>Eco Keyring Design and Make Task (6 hours)</u></p> <ul style="list-style-type: none"> -Polymers theory and sustainability -Shaping and forming polymers -Vacuum formed packaging. (Forming and subtractive manufacture) <p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 7a (1 Hour)</u></p>	<p><u>Graphics Night Light Design and Make Task (14 hours)</u></p> <ul style="list-style-type: none"> -Typography -Nets -Orthographic drawings -Graphic materials and sustainability -2D design program -Soldering (Assembly manufacture) <p><u>Laser cutting (2 hours)</u></p> <ul style="list-style-type: none"> -Head phone wrap (Subtractive manufacture) <p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 7b (1 hour)</u></p>	<p><u>Hygiene and safety</u></p> <ul style="list-style-type: none"> -Hygiene -Bacteria growth -Pathogens -Practical- Washing up <p><u>Safe use of kitchen equipment</u></p> <ul style="list-style-type: none"> -Kitchen Equipment -Sensory analysis of products -Practical- Couscous Salad -Practical- Potato and Leek Soup -Practical evaluation <p><u>Eat well Guide</u></p> <ul style="list-style-type: none"> -Food groups -Nutrition -Practical- Cheese scones -Practical- Bread rolls -Practical- Soda bread and butter -Pasta bake
8	<p><u>Book Stand Deck Chair Make Task (12 hours)</u></p> <ul style="list-style-type: none"> -Manufacturing to a specification. -Assembly and components (Subtractive and Assembly manufacture) -Textiles theory and sustainability -Tie dye -Using a sewing machine <p><u>3D CAD Modelling (4 hours)</u></p> <ul style="list-style-type: none"> -Sketch up/ TinkerCad/ Inventor -3D printing (Additive manufacture) 	<p><u>Jewellery Design and Make Task (6 hours)</u></p> <ul style="list-style-type: none"> -Biomimicry -Manufacturing a mould -Casting (Additive and subtractive manufacture) -Finishing metals <p><u>Aluminium Animal Design and Make Task (8 hours)</u></p> <ul style="list-style-type: none"> -Metals theory and sustainability -Shaping, forming and folding metal (Subtractive manufacture) 	<p><u>The digestive system</u></p> <ul style="list-style-type: none"> -4 Phases of digestion -Food as fuel -Practical- Macaroni cheese <p><u>Food Miles, Sustainability and Farming</u></p> <ul style="list-style-type: none"> -Renewable and non-renewable resources -Seasonality -Organic farming -Food miles -Intensive farming -Practical- Sausage bake

	<p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 8a (1 Hour)</u></p>	<p><u>Smart and Modern Material theory (2 hours)</u></p> <p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 8b (1 Hour)</u></p>	<p>-Practical- Chilli Con Carne</p> <p><u>Food Packaging and Labelling</u></p> <p>-Aims of packaging</p> <p>-Importance of packaging</p> <p>-Examples of packaging</p> <p>-Practical- Chicken Parmigiana</p> <p>-Practical- Meatballs in tomato sauce</p> <p>-Practical-Jambalaya</p>
9	<p><u>Bean Bag Catapult Project (Angry Birds) (8)</u></p> <p>-Mechanical systems and movement.</p> <p>-Shaping, forming and Assembly- Catapult. (Subtractive and assembly manufacture)</p> <p>-Bean bag manufacture- Seams, applique, buttons. (Subtractive and assembly manufacture)</p> <p><u>Draw string bag (8)</u></p> <p>-Sublimation</p> <p>-Construction: Seams, buttons, button holes. (Subtractive and assembly manufacture)</p> <p>Moral and ethical design</p> <p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 9a (1 Hour)</u></p>	<p><u>MP3 Speaker Project (14 Hours)</u></p> <p>-Shaping and forming MDF/ Acrylic</p> <p>-Electronics theory and sustainability</p> <p>-Electronics (Kitroniks kit) (Assembly, subtractive and forming manufacture)</p> <p><u>Programming Microcontrollers (2 Hours)</u></p> <p>-Simulation software</p> <p>-New technologies</p> <p><u>Designer Focus Lesson (1 Hour)</u></p> <p><u>Product Design Technical Knowledge Assessment 9b (1 Hour)</u></p>	<p><u>Heat transfer</u></p> <p>-Processes and the effect of heat on food.</p> <p>-Coagulation and gelatinisation</p> <p>-Practical- TBC</p> <p><u>Macro and micro nutrients</u></p> <p>-Micronutrients needed in our diets.</p> <p>-Sources of vitamins A, D, B and C</p> <p>-Sources of calcium iron and sodium</p> <p>-Functions of named vitamins and minerals</p> <p>-Practical TBC</p> <p><u>Energy</u></p> <p>-Define explain energy</p> <p>-Sources of energy in the diet</p> <p>-Energy needs of different user groups</p> <p>-Consequences of imbalance.</p> <p>-Practical- TBC</p>

KS4 Design and Technology Curriculum Map

Year Group	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
10	Wooden plane project Box joints Design communication skills Materials theory: Timbers	Aluminium animal lamp Materials theory: Metals Materials theory: Paper Catapult/ bean bag Mechanics theory	Ipad/ Laptop case Materials theory: Textiles Smart, modern and composite materials Theory	Vacuum formed case electric desk fan (Kitroniks) Materials Theory: Plastics Electronics theory	3D CAD programs 3D printer CNC router Drawing techniques Rendering and presentation Design technology and our world theory	Specific manufacture skills per specialism Eg: Sublimation/ Patterns/ Lathes/ Joinery/ Prototyping/ Cutting Lists/ Components and Fixtures Begin NEA- Research
11	NEA Research/ Design Review Material and Mechanics	NEA Design/ Make Review Electronics and Smart materials	NEA Make/ Evaluate Review Design and technology and our world	NEA Evaluate Revision	Revision	

KS4 Food and Nutrition Curriculum Map

Year Group	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
10	Food processing and production Practical work: Bread Enriched Dough Pasta Lemon Cheesecake	Food processing and production (cont) Practical work: Salmon En Croute Fish cakes Jam Lemon Curd Cottage Pie Food Safety and the hygiene Certificate	Food choice Practical work: Toad in the Hole Profiteroles Pesto/Carbonara Chicken Chow Mein Babotie/ lamb Madras Jewish cookery(own choice) Gluten free chocolate brownies	Nutrition Practical: Meal high in Protein(own choice) Quiche Dish high in Vit A Preschool children's meal	Food Science Functional properties of ingredients Practical: Key lime pie Cheese souffle Caramelised Onion tart Meringues Egg Custard Mayonnaise	Scientific investigation Planning for practical exam.
11	NEA1	NEA2	NEA2	NEA2 Exam revision	Revision	

KS5 Design and Technology Curriculum Map

Year Group	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
12	Skill practice Unit 3: Processes Math focus: Confident use of number and percentages	Design and make Challenge (Mini NEA) Unit 1: Designing and innovation Math focus: Use of ratios	NEA Research Unit 6: Human responsibility Maths focus: Calculation of surface areas and/or volumes	NEA Research Unit 4: Industrial and commercial practice Maths focus Use of trigonometry	NEA Design Unit 2: Materials Maths focus: Construction, use and/or analysis of graphs and charts	NEA Design Unit 5: Product analysis and systems Maths focus: Use of coordinates and geometry
13	NEA Make Unit 7: Public interaction Maths focus: Use of statistics and probability as a measure of likelihood	NEA Make Revision	NEA Evaluate Revision	NEA Evaluate Revision		

