



DESIGN AND TECHNOLOGY CURRICULUM OVERVIEW

Ready. Respect. Safe.

	ROTATION 1	ROTATION 2		ROTATION 3
7	<u>Designing</u> • Drawing in 3D e.g. isometric, rendering, dimensioning • Research in Design e.g. Client profiling, needs and wants • Design Brief and Specification • Design strategies e.g. Biomimicry, user centred design • Design influence e.g. Bauhaus, cultural design • Analysing and evaluating	<u>Manufacturing within Tolerance</u> • Existing products • Manufacturing to tolerance • Housing joints • Natural Vs man-made timbers • Hand tools, machines, jigs • Material properties • Environment impact • Testing and evaluating	<u>Mechanisms</u> • Motion • Forces • Lever orders • Effort, load, fulcrum • Linkages	<u>Food</u> • Eatwell guide • Macronutrients and micronutrients • Food labels • Personal safety • Weighing and measuring • Sensory analysis • Food and the environment • Food science
8	<u>Prototyping</u> • CAD e.g. 2D Design, Tinker CAD • CAM e.g. Laser cutting, 3D printing • CAT e.g. Tinker CAD electronic simulations • Iterative design • Input, process, output • Electronic components	<u>Storage Products</u> • Existing products • Manufactured Boards • Finger joints • Manufactured boards • Hand tools, machines, templates	<u>Structures</u> • Struts and ties • Static and dynamic load • Forces; compression, tension, torsion, shear, bending • Bridge building and testing	<u>Food for Life</u> • Functions of macronutrients and micronutrients • Function of fibre and water • Excesses and deficiencies • Nutritional needs of different life stages.
9	<u>Sustainability in Design</u> • Life cycle of products (cradle to the grave) • Single use products • Embedding intelligence into products • Social and moral issues in the world of design • The suitability of one material over another.	<u>Design and Make Process</u> • Existing products – products that encourage wildlife • Design specification • Technique testing • Manufacturing specification • Joints – dowel, butt, mitre		<u>Food Choices</u> • Environmental impacts of food • Food miles and carbon footprint • Food packaging • Food production and waste • Special dietary requirements, intolerances and allergies



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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
HC 10	<u>Food Safety</u> - Principles of Hazard Analysis and Critical Control Points. - Food safety legislation - Environmental Health Officer (EHO).	<u>Health and Safety</u> - COSHH - HASAWA - MHOR - PPER - RIDDOR. - Risk assessments	<u>H& C Provision</u> - Workflow - Equipment and materials - Documentation - Meeting customer needs (including equality/disability)	<u>Working in the H & C Industry</u> - Types of establishments - Food service - Hotel services - Job roles	<u>Preparing for NEA</u> - Nutrition - Life Stages - Needs of specific groups	<u>Preparing for NEA</u> - Cooking methods - Menu planning - Scenarios
HC 11	<u>NEA – Analysis</u> - Analysing assignment brief - Assessing needs of customers. - Cooking methods <i>Revision once a week.</i>	<u>NEA – Cooking</u> - Time plan - Preparation for practical NEA - Practical examination <i>Revision once a week.</i>	<u>NEA – Evaluation</u> - Evaluation of dishes - Evaluation of personal performance. <i>Revision once a week.</i>	<u>NEA – Evaluation</u> - Evaluation of dishes - Evaluation of personal performance. <u>Unit 1 revision once NEA is complete</u>		
DT 10	<u>Understanding and Selecting Materials</u> - Properties of materials - Factors effecting selection - Sources and conversion <u>Project: Desk Tidy</u>	<u>Developments in new materials</u> - Smart materials - New materials - Technical textiles - Composite materials <u>Project: Desk Tidy</u>	<u>Sustainability</u> - Material/ Manufacturing Impact - Energy <u>Design Development and Communication</u> - CAD/CAM - Mathematical models <u>Project: Lamp</u>	<u>People, Culture and Society</u> - Technology push/market pull - Ergonomics <u>The Complete Design Cycle</u> - Iterative design <u>Project: Lamp</u>	<u>Electronics</u> - Components - Schematics <u>Systems and Control</u> - Motion, forces, strengthening - Levers, cams, gears, pulleys <u>Project: Lamp</u>	<u>Influential Designers</u> - Marcel Breuer, Phillippe Stark - Alessi, Dyson <u>NEA</u> - Identifying and Investigating Design Possibilities
DT 11	<u>NEA</u> - Producing design brief and Specification - Generating ideas <i>Revision for once a week</i>	<u>NEA</u> Developing design ideas <i>Revision for once a week</i>	<u>NEA</u> Realising design ideas <i>Revision for once a week</i>	<u>NEA</u> Analysing and evaluating <i>Revision for once a week</i>		