

Curriculum Map 2023-24

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Year 10	<p>Chapter 1 – Identifying requirements:</p> <ul style="list-style-type: none"> Exploring contexts using a concept map. Primary users and wider stakeholders. Social, cultural, moral and economic considerations. <p>Chapter 2 – Learning from existing products and practice:</p> <ul style="list-style-type: none"> Exploring and critiquing existing designs, systems, and products. Materials, components, and processes. Disassembly. Fashion, trends, taste, and style. Marketing and branding. Impact and society and usability. The environment and lifecycle assessment. How new and emerging technologies influence and inform design decisions. Ethics, the environment and product enhancement. <p>Chapter 3 – Implications of wider issues:</p> <ul style="list-style-type: none"> The impacts of new and emerging technologies. Planned obsolescence. 	<p>Chapter 4 – Design thinking and communication:</p> <ul style="list-style-type: none"> 2D and 3D drawing techniques. Working drawings. Sketch modelling. Exploded drawings. Sources of information when problem solving. Making iterative models. <p>Chapter 10 – CAD/CAM: (Only do pages 186-188)</p> <ul style="list-style-type: none"> CAD/CAM and CNC. Scales of production. <p>Project CAD/Laser project – how to design and manufacture.</p> <p>Assessment end of chapter 4 test with retrieval on chapter 1 and 2</p>	<p>Chapter 5 – Material considerations:</p> <ul style="list-style-type: none"> Types of uses of paper and board. Natural and manufactured timber. Ferrous and non-ferrous metals and alloys. Thermo and thermosetting polymers. Natural and synthetic fibres and fabrics. Modern and smart materials. Characteristics properties of materials. <p>Project Material testing and working with materials and skills portfolio.</p> <p>Assessment end of chapter 5 test with retrieval on chapter 1/2/3/4</p>	<p>Chapter 6 – Mechanical devices and electronic systems:</p> <ul style="list-style-type: none"> Mechanical devices and systems. Types of movement. Forces. Inputs and outputs. Electronic systems. Programmable components. Input sensors, switches, and controls. <p>Chapter 7 – New and emerging technologies:</p> <ul style="list-style-type: none"> The impact of new and emerging technologies on production techniques. Economies of scale. Disruptive technologies. Additive manufacturing. Robotics. Virtual reality. Maker movement. <p>Assessment end of chapter 6 and 7 test with retrieval on chapters 1/2/3/4/5</p>	<p>Chapter 9 – Timber:</p> <ul style="list-style-type: none"> Physical and working properties. Softwoods, hardwoods, and manufactured boards. Sources and origins. Ecological impact. Recycling timbers. Commonly available forms. Standard components. Manipulating and joining. Tools and equipment. Structural integrity. Knock down fittings. Finishes. <p>Project Material testing and skills portfolio</p> <p>Assessment end of chapter 9 test with retrieval on chapters 1/2/3/4/5/6/7</p>	<p>NEA Project (50% final grade):</p> <ul style="list-style-type: none"> Investigations of the context. Design brief. Investigations of user and stakeholder needs and wants. Investigating existing products. <p>Assessment on strand sections 1.1/1.2</p>

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	<ul style="list-style-type: none"> • Sustainability. • Circular economy. • Cradle to cradle. • Renewable and non-renewable energy. • Environmental initiatives. • Fairtrade. • Social and ethical awareness. <p>Global sustainable development.</p> <p>Assessment end of chapter test on 1 and 2.</p>					
Year 11	<p>NEA Project:</p> <ul style="list-style-type: none"> • Investigations of user and stakeholder needs and wants. • Design brief. • Investigating existing products. • Generation of initial ideas. <p>Design developments – iterative process.</p> <p>Assessment feedback on 1.1 and 1.2.</p>	<p>November Mock Exam Preparation:</p> <ul style="list-style-type: none"> • Recap and revision of in-depth and core knowledge topics. • Past papers and exam-based skills. <p>NEA Project:</p> <ul style="list-style-type: none"> • Exploration of materials. • Development of final design. <p>Assessment feedback on strand 1 and strand 2.</p>	<p>NEA Project:</p> <ul style="list-style-type: none"> • Technical specification. • Planning for final prototype. <p>Manufacturing final prototype.</p> <p>Assessment feedback on strand 4.</p>	<p>Completion of NEA Project:</p> <ul style="list-style-type: none"> • Manufacturing final prototype. • Testing and evaluating final prototype. <p>March Mock Exam Preparation:</p> <ul style="list-style-type: none"> • Recap and revision of in-depth and core knowledge topics. • Past papers and exam-based skills. 	<p>Final Exam Preparation:</p> <ul style="list-style-type: none"> • Recap and revision of in-depth and core knowledge topics. 	

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Year 11	NEA Project: <ul style="list-style-type: none">• Investigations of user and stakeholder needs and wants.• Design brief.• Investigating existing products.• Generation of initial ideas.• Design developments – iterative process.	November Mock Exam Preparation: <ul style="list-style-type: none">• Recap and revision of in-depth and core knowledge topics.• Past papers and exam-based skills. NEA Project: <ul style="list-style-type: none">• Exploration of materials.• Development of final design.	NEA Project: <ul style="list-style-type: none">• Technical specification.• Planning for final prototype.• Manufacturing final prototype.	Completion of NEA Project: <ul style="list-style-type: none">• Manufacturing final prototype.• Testing and evaluating final prototype. March Mock Exam Preparation: <ul style="list-style-type: none">• Recap and revision of in-depth and core knowledge topics.• Past papers and exam-based skills.	Final Exam Preparation: <ul style="list-style-type: none">• Recap and revision of in-depth and core knowledge topics.	
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