

Year	Autumn	Spring	Summer
7	<p>Design Skills</p> <ul style="list-style-type: none"> • Construction lines • Grid method • Colour, tone and texture • Cabinet Oblique <p>Phone Holder Project</p> <ul style="list-style-type: none"> • Target market/User analysis • Writing a Design Specification • Design ideas 	<p>Clock Project (continued)</p> <ul style="list-style-type: none"> • Timbers Theory • Workshop skills • CAD/CAM • Evaluation vs Specification <p>USB Lamp Project</p> <ul style="list-style-type: none"> • Explore a given context • Circuits and Components • Soldering skills • Design ideas 	<p>Darkness Project (cont)</p> <ul style="list-style-type: none"> • Workshop skills • Vacuum forming • Testing with User <p>Graphic Skills</p> <ul style="list-style-type: none"> • Colour Theory • Logo Theory/Design • Product Analysis • Packaging • Nets
8	<p>Design Skills 2</p> <ul style="list-style-type: none"> • Isometric projection • Crating method • Tone and rendering <p>Cultural Lamp Project</p> <ul style="list-style-type: none"> • Exploring a problem • Product analysis • Target market profile/data analysis 	<p>Money Box</p> <ul style="list-style-type: none"> • Polymers • CAD/CAM & 2D Design • Assembly • Test/evaluate <p>Designer's Project</p> <ul style="list-style-type: none"> • Deforestation • Global warming • 6 R's 	<p>Design Influences</p> <ul style="list-style-type: none"> • Biomimicry • Famous designers • Fashion models <p>Systems and Control</p> <ul style="list-style-type: none"> • Inputs/Processes/Outputs • Motion types and mechanisms • Microcontrollers

	<ul style="list-style-type: none"> Design brief and specification 	<ul style="list-style-type: none"> Plastic oceans/Keyring 	<ul style="list-style-type: none"> BBC microbit
9	<p>Design Skills 3</p> <ul style="list-style-type: none"> Isometric projection recap Perspective Drawing enhancement Exploded drawings <p>Practical Skills 1: Phone Holder</p> <ul style="list-style-type: none"> Marking out (Templates) Cutting techniques Polymers theory Deforming and reforming Papers and boards theory Packaging 	<p>Practical Skills 1: Phone Holder</p> <ul style="list-style-type: none"> Timbers theory Marking out Cutting techniques Joining methods Finishing techniques <p>Bridge Project</p> <ul style="list-style-type: none"> Exploring a context Forces and stresses Metals theory Material properties Team work practical 	<p>Flat Pack Lamp</p> <ul style="list-style-type: none"> IKEA case study Design eras Design ideas CAD/CAM 2D Design Electronics theory Soldering Material management
10	<p>Focus Topics: CORE PRINCIPLES</p> <ul style="list-style-type: none"> New and emerging technologies Industry and enterprise People, culture and society Energy generation and storage Smart and modern materials Systems approach to design 	<p>Focus Topics: D&M PRINCIPLES</p> <ul style="list-style-type: none"> Primary and secondary research Anthropometrics and ergonomics Product analysis Design brief and specification Communicating design Ideas The work of others 	<p>Focus Topics: D&M PRINCIPLES</p> <ul style="list-style-type: none"> Industrial processes Material management Finishing techniques <p>Project: Given Context</p>

	<ul style="list-style-type: none"> • Mechanical devices • Materials overview: Timbers/Polymers/Metals/ Papers and boards/ Textiles/Composites/Smart materials/Modern materials <p>Focus Topics: TECHNICAL PRINCIPLES</p> <ul style="list-style-type: none"> • Materials sources and origins • Types and properties • Conversion • Commercial processes • Ecological challenge/6 R's 	<ul style="list-style-type: none"> • CAD • Modelling techniques • Working Drawings <p>Project: Given Context</p> <ul style="list-style-type: none"> • Initial investigations • Design brief and specification • Design ideas • Design development (Fusion 360) • Material research/testing • Manufacturing specification • Working drawings • 	<ul style="list-style-type: none"> • Realising design ideas • Making diary • Testing and evaluation <p>NEA Starts</p>
11	<p>Independent Design and Make Project 2 (NEA)</p> <ul style="list-style-type: none"> • Investigating the design context • Producing a design brief and specification • Generating design ideas 	<p>Independent Design and Make Project 2 (NEA)</p> <ul style="list-style-type: none"> • Developing design ideas • Making a prototype • Analysing and evaluating 	

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