

Design and Technology KS4 Curriculum Map

Year 10

Term	Component 1 (Theory exam)		Component 2 (NEA)	Tutorials	Assessment
Autumn Term 1	New and emerging technologies: <ul style="list-style-type: none"> ● Industry and enterprise ● People, culture and society ● Sustainability and the environment ● Production techniques and systems ● Critical evaluation of new and emerging technologies 		Low voltage lamp (mini NEA) <ul style="list-style-type: none"> ● Research (Designers, low voltage lamps, design era's) ● Designing ● Development 	<ul style="list-style-type: none"> ● Drawing and rendering techniques ● Design development using CAD ● Modelling using nets ● Cutting lists ● Manufacturing plans 	
Autumn Term 2	Energy generation and storage: <ul style="list-style-type: none"> ● Fossil fuels ● Nuclear power ● Renewable energy 		Low voltage lamp (mini NEA) Contd. <ul style="list-style-type: none"> ● Card modelling ● Evaluation and development ● Making 	<ul style="list-style-type: none"> ● Creating nets in CAD ● Rendering using CAD ● Materials preparation 	Google forms Assessment 1 New and emerging technologies
Spring Term 1	Developments in new materials: <ul style="list-style-type: none"> ● Modern materials ● Smart materials ● Composite materials ● Technical textiles 		Low voltage lamp (mini NEA) Contd. <ul style="list-style-type: none"> ● Making ● Testing and modifications ● Evaluation 		Google forms assessment 2 Energy generation and storage
Spring Term 2	Systems approach to designing: <ul style="list-style-type: none"> ● Input and output devices 			<ul style="list-style-type: none"> ● Electronic systems for control 	Google forms assessment 3

	<ul style="list-style-type: none"> Processes and programming microcontrollers <p>Mechanical devices:</p> <ul style="list-style-type: none"> Types on levers Types of linkages Types of motion Rotary systems 			<ul style="list-style-type: none"> Cam profiles Mechanical advantage Change of motion Gear and pulley ratios 	Developments in new materials
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Year 10 contd.

Summer Term 1	<p>Materials and their working properties:</p> <ul style="list-style-type: none"> Properties of materials Working properties of materials Paper and boards Natural and manufactured timber 		<p>Small storage unit (Mini NEA)</p> <ul style="list-style-type: none"> Research on design movements Designing and development Card modelling 	<ul style="list-style-type: none"> Practice joints Combining materials Fixings and adhesives 	<p>Google forms assessment 4</p> <p>Systems approach to designing</p>
Summer Term 2	<p>Materials and their working properties: contd.</p> <ul style="list-style-type: none"> Metals and alloys Polymers Natural and synthetic fabrics and fibres 		<p>Small storage unit (Mini NEA) Contd.</p> <ul style="list-style-type: none"> Making Testing and modifications Evaluation 	<ul style="list-style-type: none"> Finishing materials Methods of testing Recording client feedback 	<p>Mock exam 1</p> <p>Full 2 hour paper</p>

Year 11

Term	Component 1 (Theory exam)	Component 2 (NEA)	Tutorials	Assessment
Autumn Term 1		Final NEA:	<p>Preparation for NEA</p> <ul style="list-style-type: none"> Research methods 	Assessment Through homework's

		<ul style="list-style-type: none"> ● Identifying & investigating design possibilities ● Producing a design brief & specification ● Generating design ideas ● Developing design ideas 	<ul style="list-style-type: none"> ● Creating useful questionnaires ● Creating client profiles ● Writing design briefs and specifications ● Drawing and rendering techniques 	
Autumn Term 2	Revision tasks for mock exam	Final NEA contd. <ul style="list-style-type: none"> ● Development of designs contd. ● Modelling ideas ● Evaluation and modifications ● Final idea ● Manufacturing specification ● Making prototype 	<ul style="list-style-type: none"> ● Cad modelling methods ● Creating manufacturing specifications and plan of manufacture 	Mock exam 1 Full 2 hour paper
Spring Term 1	Revision tasks for mock exam	Final NEA contd. <ul style="list-style-type: none"> ● Making prototype ● Testing and modifications ● Final evaluation 		
Spring Term 2	Revision tasks for mock exam		<ul style="list-style-type: none"> ● Revision techniques ● Revision resources ● Practical tasks for revision 	Final public exam 2 hour paper