

Curriculum Overview: Year 10 GCSE Design and Technology Graphics

Rationale: Throughout year 10 students will complete a design and make project following the key areas of the researching, designing, modelling, making and evaluating.

One lesson out of 5 is dedicated to theory knowledge lessons, these lessons are aimed to support the students practical work and deepen their understanding of how products are produced in industry.

Term / Length of Unit	Outline	Assessment	Home Learning	Resources	Knowledge/Skills End Points	Reading
Autumn term 1 7 weeks	<p>Workshop: Expanding on prior knowledge and skills to create a sketchbook of techniques and processes.</p> <p>Theory: Timbers, Metals and alloys, Design decisions,</p>	<p>Class feedback of progress.</p> <p>FAR assessment of HL tasks.</p>	<p>HL 1: Timbers HL 2: Metals and Alloys HL 3: Design Decisions HL 4: Smart Materials</p>	<p>Computer rooms needed to Mock NEA project.</p> <p>Teacher resources: Staff share: Design and Technology: Graphics: Year 10: Autumn term</p> <p>Cricut, laser cutter, sublimation printer, pyrography, clay</p> <p>Student resources: Worksheets and support sheets to be provided by teacher.</p>	<ul style="list-style-type: none"> Knowledge of key pages in the NEA including how to access higher mark band. Understand how designers use research to influence a new design Understand how data is used to interpret what the TMG will buy. Understand why design criteria's are used and how to create a design criteria using research and data (primary source). Analyse existing products Understanding of how to answer exam style questions Gained understanding of how products are designed using different strategies. <p>End point: Completion of section A & B.</p>	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Guided reading for practical tasks Research and write tasks. Recall and write tasks
Autumn term 2 8 weeks	<p>Workshop: To learn about branding and understand how and why it is used. To be able to work collaboratively in a mini group project.</p> <p>Theory: smart materials, modern materials, composite materials, ergonomics and anthropometrics</p>	<p>Assessment of mock NEA folder.</p> <p>FAR assessment</p>	<p>HL 5: Composite Materials HL 6: Collaborative Design</p>	<p>Teacher resources: Staff share: Design and Technology: Graphics: Year 10: Autumn term</p> <p>Student resources: Worksheets and support sheets to be provided by teacher.</p>	<ul style="list-style-type: none"> Knowledge of key pages in the NEA including how to access higher mark band. Design skills developed using a range of mediums Develop practical skills through sampling different techniques such as using specialist machinery and decorative techniques. Develop knowledge of fabrics through use and testing Develop knowledge of construction and decorative techniques through testing ideas Analyse data from TMG to influence design ideas 	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Guided reading for practical tasks Research and write tasks. Recall and write tasks

					<ul style="list-style-type: none"> Gained understanding of how Maths is used in designing and manufacturing products. How to decode the exam questions. <p>End point: Completion of Section C & D</p>	
Spring term 1 6weeks	<p>Workshop: To learn different CAD and CAM techniques by using various materials. To focus on Adobe software using InDesign to learn about presentation and composition.</p> <p>Mini Mock NEA project: Section E: Realising design ideas. Work to include: making of final product.</p> <p>Theory: The 6Rs</p> <p>PPE 1 – paper is from the back of the revision guide.</p>	<p>Assessment of mock NEA folder.</p> <p>Assessment of product.</p> <p>PPE 1</p>	<p>HL 1: Sustainability Exam Question HL 2: Sustainability – The future</p>	<p>Student Support sheets for NEA: Shared area: D&T: Textiles: NEA</p> <p>Computer rooms needed to type up NEA.</p> <p>Teacher resources: Staff share: Design and Technology: Graphics: Year 10: Spring term</p> <p>Student resources: Worksheets and support sheets to be provided by teacher.</p> <p>PPE 1 – paper is from the back of the revision guide.</p>	<ul style="list-style-type: none"> Knowledge of key pages in the NEA including how to access higher mark band. Develop practical skills through sampling different techniques such as using specialist machinery and decorative techniques. Develop pattern making/adaption skills to create toile and final product Independent working Problem solving Knowledge of how new and emerging technology impact the design industry Understanding of how and why different manufacturing process are used Understanding of how to answer exam style questions <p>End point: Completion of Section E</p>	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Guided reading for practical tasks Recall and write tasks
Spring term 2 6weeks	<p>Mini Mock NEA project: Section A & B: Research themes, specific research, create mood boards, questionnaires to establish TMG, product analysis, design criteria.</p> <p>Mini Mock NEA project: Section E: Realising design ideas. Work to include: making of final product.</p> <p>Theory:</p>	<p>Assessment of mock NEA folder.</p> <p>Assessment of product.</p>	<p>HL 1: Mindmap – exploration HL 2: Product Disassembly HL 3: Independent research</p>	<p>Student Support sheets for NEA: Shared area: D&T: Textiles: NEA</p> <p>Computer rooms needed to type up NEA.</p> <p>Teacher resources: Staff share: Design and Technology: Graphics: Year 10: Spring term</p> <p>Student resources: Worksheets and support sheets to be provided by teacher.</p>	<ul style="list-style-type: none"> Knowledge of key pages in the NEA including how to access higher mark band. Develop practical skills through sampling different techniques such as using specialist machinery and decorative techniques. Develop pattern making/adaption skills to create toile and final product Independent working Problem solving Knowledge of how new and emerging technology impact the design industry 	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Guided reading for practical tasks Recall and write tasks

	Materials and components, making principles – surface treatments and finishes PPE 1 – paper is from the back of the revision guide.			PPE 1 – paper is from the back of the revision guide.	<ul style="list-style-type: none"> Understanding of how and why different manufacturing process are used Understanding of how to answer exam style questions End point: Completion of Section E 	
Summer term 1	<p>Mini Mock NEA project: Section C & D: Work to include: initial design ideas, initial samples. Feedback from TMG, develop design ideas, developed sample, final design idea.</p> <p>Mini Mock NEA: Section F: Evaluation. Work to include: Evaluation against their design specification, evaluation and feedback from TMG (in situ) and Modifications made for mass production (including redesign).</p> <p>Theory: Tolerances, Mechanisms</p>	Assessment of mock NEA.	<p>HL 1: Theory Assessment - Tolerances</p> <p>HL 2: Theory Assessment – Mechanisms</p>	<p>Student Support sheets for NEA: Shared area: D&T: Textiles: NEA</p> <p>Computer rooms needed to type up NEA.</p>	<ul style="list-style-type: none"> Analytical skills Evaluation against different criteria's Critical reflection Suggestions of improvements Classification of sources for each material area Give examples of products made from each material area Sustainable sources within each area Justification of why specific materials are used for specific products. <p>End point: Completion of Section F</p>	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Guided reading for practical tasks Recall and write tasks
Summer term 2	<p>All lessons dedicated to NEA in this half term.</p> <p>NEA: Section A</p> <p>Research themes, specific research, create mood boards, questionnaires to establish TMG, design criteria.</p> <p>Theory: Industry, Functionality</p>	<p>Class feedback of progress.</p> <p>PPE 2</p>	<p>HL 4: Task 4: Revision for PPE 2</p> <p>HL 5: Complete actions from PPE 2 feedback.</p>	<p>Student Support sheets for NEA: Shared area: D&T: Textiles: NEA</p> <p>Computer rooms needed to type up NEA.</p> <p>Each student must have an A3 folder to keep NEA in – Technician to order.</p>	<ul style="list-style-type: none"> Knowledge of key pages in the NEA including how to access higher mark band. Understand how designers use research to influence a new design Understand how data is used to interpret what the TMG will buy. Understand why design criteria's are used and how to create a design criteria using research and data (primary source). Analyse existing products <p>End point: Completion of section A & B.</p>	<ul style="list-style-type: none"> Exam style questions Key vocabulary used Core definitions of key words Research and write tasks.

