

KS4 CURRICULUM: Graphics (YEAR 13)

Curriculum Aim: Learning about Product Design will encourage learners to develop design and thinking skills that open up a world of possibility, giving them the tools to create the future. This specification will excite and engage learners with contemporary topics covering the breadth of this dynamic and evolving subject. It will generate empathetic learners who have the ability to confidently critique products, situations and society in every walk of their lives now and in the future.

Link to Prior Learning: The subject continues to build on the principles of iterative design, and develops theory knowledge from Year 12

Overview

In Graphics you will learn about:

- Core design and technology principles with some emphasis on maths and science skills
- In-depth knowledge of how different materials and manufacturing processes are used to design and make products.
- Non-examination Assessment - Design and manufacture a product which reflects the contextual challenge and meets the needs of chosen stakeholders

	Focus / Topic	Knowledge & Skills	Assessments
Autumn 1	Contextual challenge: Design Thinking	<ul style="list-style-type: none"> ● Create: Design Thinking (A02) -24 marks <ul style="list-style-type: none"> ○ Generation of initial ideas ○ Design developments ○ Development of final design solution(s) ○ Critical thinking ● Create: Design Communication (A02) -16 marks <ul style="list-style-type: none"> ○ Quality of chronological progression ○ Quality of initial ideas ○ Quality of design developments ○ Quality of final design solution(s) ● Why is it important to analyse and evaluate products as part of the design and manufacturing process? (2.1) ● Why is it important to understand technological developments in Product Design? (2.2) ● Why is it important to understand both past and present developments in Product Design? (2.3) ● What can be learnt by examining lifecycles of products? (2.4) ● What factors need to be considered whilst investigating design possibilities? (3.1) 	Exam question practice NEA
Autumn 2		<ul style="list-style-type: none"> ● Create: Design Thinking (A02) -24 marks <ul style="list-style-type: none"> ○ Generation of initial ideas ○ Design developments ○ Development of final design solution(s) ○ Critical thinking ● Create: Design Communication (A02) -16 marks <ul style="list-style-type: none"> ○ Quality of chronological progression ○ Quality of initial ideas ○ Quality of design developments ○ Quality of final design solution(s) ● What factors influence the selection of materials that are used in products? (5.1) ● What materials should be selected when designing and manufacturing products and prototypes in product design (5.2) ● Why is it important to consider the properties/characteristics of materials when designing and manufacturing products? (5.3) 	Exam question practice NEA

		<ul style="list-style-type: none"> • What considerations need to be made about the structural integrity of a design solution? (6.1) • How can products be designed to function effectively within their surroundings? (6.2) 	<p>PPE Exam:</p> <p>NEA Deadline Create DT (A02) 2.2 to 2.4 Create DC (A03) 3.1 to 3.4 15/12/23</p>
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Spring 1	Contextual challenge: Create	<ul style="list-style-type: none"> • Create: Final Prototypes (A02) -20 marks <ul style="list-style-type: none"> ○ Quality of planning for making the final prototype(s) ○ Quality of final prototype(s) ○ Use of specialist techniques and processes ○ Use of specialist tools and equipment ○ Viability of the final prototype(s) • How can materials and processes be used to make iterative models? (7.1) • How can materials and processes be used to make final prototypes? (7.2) • How can materials and processes be used to make commercial products? (7.3) • How is manufacturing organised and managed for different scales of production? (7.4) • How is the quality of products controlled through manufacture? (7.5) 	<p>Exam question practice</p> <p>NEA Deadline</p> <p>Create FP (A04) 4.1 to 4.5 9/2/24</p>
Spring 2	Contextual challenge Evaluate	<ul style="list-style-type: none"> • Evaluate - (A03) - 20 marks <ul style="list-style-type: none"> ○ Analysis and evaluation of primary and/or secondary sources ○ Ongoing evaluation to manage design progression ○ Feasibility of the design solution ○ Evaluation of the final prototype(s) • How can designers assess whether a design solution meets its stakeholder requirements? (8.1) • How can product designers and manufacturers assess whether a design solution meets the criteria of technical specifications? (8.2)" • How do designers and manufacturers determine whether design solutions are commercially viable? (8.3) • How can safety be ensured when working with materials in a workshop environment? (9.1) • What are the implications of health and safety legislation on product manufacture? (9.2) 	<p>Exam question practice</p> <p>NEA Presentation date: TBC</p> <p>NEA Deadline</p> <p>Evaluate (A05) 5.1 to 5.4 1/3/24</p>
Summer 1	Exam	Revision Techniques	Exam date: TBC (June)
Summer 2	Study Leave	Study Leave	Study leave

Further Information

- Course code is OCR Design Technology: Product Design H406
- Students must create their own design contexts for the NEA
- Grade Make up:
 - Exam 1: Principles of Product Design - 1 hour 30 mins - 26.7%
 - Exam Problem solving in Product Design - 01 hour 45 mins - 23.3%
 - Iterative design project - Approx. 65 hours - 50%
- Link to Specification: [OCR A Level Design and Technology H404-H406 Specification](#)