

Product Design

“Creativity is allowing yourself to make mistakes, Design is knowing which ones to keep” - Scott Adams

All PD staff will strive to enthuse, facilitate and shape our Byrchall students to be creative problem solvers who are confident, resilient and most importantly passionate about the products they design and make.

Autumn	Spring	Summer
NEA - design and development of ideas. Exam preparation.	NEA – Final practical and evaluation. Exam preparation.	Exam revision and preparation

Homework will be set in the following formats to support independent learning in our subject.

- Keywords followed by spelling and meaning test in lessons.
- Watching a video to learn a specific skill or to support activity linked to controlled assessment.

Practising a particular skill just as:

- Sketching (2D and 3D)
- Producing a working drawing with measurements
- Generating design ideas
- Developing ideas
- Idea modelling
- CAD (Corel Draw/Google sketch up)

Collecting research information

- Measurements to ensure a product is ergonomic and uses relevant anthropometric data
- Imagery/inspiration
- Regular customer interviews/feedback
- Industry visits to look at existing products
- Product Analysis
- Exploring a design movement/designer to enable students to design ‘in the style of...’
- Investigating possible pathways with local colleges and universities
- Finding out local industries & jobs including apprenticeships

Improving theory knowledge and understanding at GCSE.

- Practising exam questions
- Watching GCSE PODS on key topics.
- Reading Blue Revision Book

Unit	Duration (lessons)	Learning Objectives/Outcomes
<p>NEA - design and development of ideas.</p> <p>Mock exam preparation.</p>	14	<p>Finalise Research section for NEA (Coursework) A01 A</p> <ul style="list-style-type: none"> • Research design brief and select a variety of sources to help research the task. • Find a suitable end user to design, make + develop product for • Analyse findings and produce a design criteria suitable for chosen client • Analyse existing products to gain knowledge on how other designers have solved the problem <p>Complete AO1 B- Identify, investigate & outline design possibilities</p> <ul style="list-style-type: none"> • Finalise design brief and be able to create a detailed design specification to show you understand your client's needs and wants. <p>Generating design ideas A02 C</p> <ul style="list-style-type: none"> • Using a planned design strategy and inspiration, create imaginative ideas using a range of techniques. Include annotation to help explore initial thoughts. • Evaluate ideas against specification to help choose which one meets the client's needs the best • Share more suitable ideas with client and using feedback decide on which one is best to develop. Be able to justify your choice. <p>Developing design ideas A02 D</p> <ul style="list-style-type: none"> • Use primary and secondary data to help work out sizes for prototype • Demonstrate a variety of modelling skills, including CAD CAM to test chosen idea • Refine and develop idea by making improvements to model / prototype. • Select appropriate materials & components based on their properties. Demonstrate technical knowledge with regards to how materials are processed, worked & finished. Consider how different materials impact on the world's natural resources and justify why your final idea is the most suitable • Finalise plans (2D &3D CAD drawings). Produce

		<p>manufacturing specification and cutting list to enable a third party to manufacture your product. Consider quality checkpoints to ensure practical work is made to high standard</p> <p>Exam Preparation</p> <p>Continue to recap on theory covered in Y9 and 10. Focus on core technical principles, specialist technical principles (timber) and designing and making principles</p>
<p>NEA – Final practical and evaluation.</p> <p>Exam preparation.</p>	14	<p>Realising design ideas A02 E</p> <ul style="list-style-type: none"> • Continue to evaluate, test + develop during your practical work • Use appropriate marking out methods and specialist tools & equipment to create final prototype, including a range of CAD CAM • Work efficiently, safely and with precision to produce a high-quality outcome • Apply final finishes to prototype • Collate photographic evidence throughout practical sessions to clearly show how you have manufactured your product. <p>Analysing and evaluating A03 F</p> <ul style="list-style-type: none"> • Involve the client to test prototypes throughout the design process and analyse how well your final idea meets their needs. • Compare the final outcomes against your original design specification. Discuss possible improvements and complete final evaluation. <p>Exam Preparation</p> <ul style="list-style-type: none"> • Continue to recap on theory covered In Y9 and 10. Focus on core technical principles, specialist technical principles (timber) and designing and making principle
<p>Exam revision and final preparation</p>	8	<p>Exam Preparation</p> <ul style="list-style-type: none"> • Practice answering relevant multiple-choice questions – learn how to narrow answer down by disregarding irrelevant answers • Practise answering mathematical questions. • Develop confidence in answering “long” questions

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| | | <ul style="list-style-type: none">• Develop exam technique in order to maximise marks on the paper.• Be able to manage time in order to complete all questions effectively. |
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