

Curriculum Overview – GCSE Product Design

| Year 10 | | | | | |
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| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| <p>Project 1- kangaroo</p> <ul style="list-style-type: none"> • Introduction to the workshop, • Using tools and machines accurately, • Understanding health and safety and risk assessments in the workshop. • Knowing the names of tools and equipment and how to use them • Use of templates for accuracy, quality and batch production • Communication skills • Showing the order of processes/ | <p>Project 3- Egg</p> <ul style="list-style-type: none"> • Understand the iterative design process <p>Develop drawing skills</p> <ul style="list-style-type: none"> • Sketching • Isometric drawing • 3rd angle Orthographic views • Sectional views • Perspective (1 & 2 point) • Exploded • Rendering <p>Modelling and prototyping skills including</p> <ul style="list-style-type: none"> • Mathematical • Card • Foam | <p>Project 4- pinball project.</p> <p>Mini design and make project, Practice NEA. Use of a variety of materials,</p> <p>Mechanisms- Levers, moments, forces, movement, pulleys, cams.</p> | <p>Pinball project continue</p> | <p>Energy Renewable and non-renewable, Batteries/storage</p> <p>Manufacturing processes/ industrial processes</p> | <p>Material properties</p> <p>Start NEA- initial thinking</p> |

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| <p>record of making,</p> <ul style="list-style-type: none"> • Testing and evaluating the success of your skills. • Understanding the properties of plywood and timbers • Understanding how to work with plywood <p>Project 2- coffee stencil</p> <ul style="list-style-type: none"> • Understanding work of other designers • Understanding CAD, uses, advantages, disadvantages • Learn how to use 2D design • Understanding how to design a product in CAD • Designing for a client • Understanding CAM, types, advantages, disadvantages. | <ul style="list-style-type: none"> • Resistant materials • CAD/CAM • Use of scale | | | | |
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| <ul style="list-style-type: none"> • How to set up laser cutter • New and emerging technologies • Automation • FMS • JIT/ lean manufacturing • CAT • Rapid prototyping | | | | | |
| | | | | PPEs | |

| Year 11 | | | | | |
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| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | |
| NEA 50% of GCSE grade. Candidates pick one of 3 design contexts set by the exam board. 35-40 hour project complete in March | NEA | NEA | Complete NEA. Revision and exam prep. | Exam prep/ revision | |
| | | PPE | <i>Product deadline</i> | | |