

### Year 10 – Product Design Curriculum

Throughout the year you will partake in a wide variety of mini-projects and skills sessions. This will run alongside two lessons a fortnight of theory work, guided by the Edexcel GCSE D&T Specification. Some theory work will be linked to the projects we are running, whereas some will be an additional topic taught.

| Words in italics won't be on the website. | <b>What will I learn?</b><br><br><i>What topics, knowledge and skills do we cover?</i>  | <b>How will I learn it?</b><br><br><i>What lesson activities and learning and assessment strategies are used? Assessment will ensure that students have gained the knowledge by the relevant endpoint.</i>   | <b>Why is it important that I learn this?</b><br><br><i>What is the purpose of learning this knowledge and skills? (This will link to the curriculum ambition.)</i> | <b>Why am I learning this now?</b><br><br><i>How does this build on prior learning (inc.KS2)? How does it support future learning in the curriculum (inc. on to A level)? How does it connect with other subjects where relevant?</i>   |
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| Year 10<br>Half Term 1                    | You will be introduced to the GCSE course and carry out some design challenges to get your creative juices flowing! You will have 2 theory lessons a fortnight to start gaining the knowledge needed for the Product Design course and examinations. The first challenge which you will do is the stool challenge. This is where you will replicate a school stool including looking at anthropometrics and ergonomics. | You will be given challenges to complete which involve using mathematics and modelling skills. You will be assessed on the quality of outcomes and your attention to detail. Theory will be assessed regularly by using examination style questions. |   | A successful Product Designer can problem solve, give creative solutions and be able to develop ideas through modelling. Design challenges are also a fun way to build these skills. In KS3 we taught basic GCSE theory topics through the projects we delivered. This is now your chance to build on this foundation and understand the topics at a much deeper level. |

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| <p>Year 10<br/>Half Term 2<br/>4</p> | <p>Alongside theory lessons, students will begin to make a toolbox out of a range of materials. The toolbox is a way for students to incorporate as many materials as possible as well as techniques, fixtures and fittings and using a range of tools and equipment in the workshop including the vacuum former and laser cutter, the use of hinges and using CAD to design elements of their design.</p> | <p>Students will learn this practically watching teacher demonstrations. Students will also learn the theory to go alongside what they have been learning practically.</p> | <p>It is important to learn this so that you learn and understand material properties and how they work.</p> | <p>Students will have experienced some use of materials in KS3, but by completing the tool box students will have a deeper understanding of the materials and how they are used.</p> |
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| <p>Year 10<br/>Half Term 5</p> | <p>Students will complete any theory topics which they have not covered throughout the year. These topics will run separate from the tool box and are on topics such as industry and enterprise.</p>   | <p>Students will learn these through a range of activities with their class teacher.</p>  | <p>It is important to learn so students are equipped for their exam.</p>  | <p>Ready for upcoming mocks.</p>  |
| <p>Year 10<br/>Half Term 6</p> | <p>The introduction of the NEA. Edexcel will publish the contexts in which you can choose one to focus your major (50% of the final grade) project on.</p> <p>The link to the website for Edexcel GCSE D&amp;T is here:<br/> <a href="https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-2017.html">https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-2017.html</a></p> | <p>You will be led through this whole project step-by-step by your teacher. You will be shown how to complete each aspect to the best of your ability, you will be shown examples and discuss the assessment criteria every step of the way. You will have ample opportunities to ask questions and all support documents will be on Google Classroom so you can access them whenever you want. Work will be started in class but may need completing at home. We will assess</p> | <p>The NEA is worth 50% of your final grade. It is your major project where you will showcase all your strengths. You will solve a real-world problem to the best of your ability and hopefully achieve a mark to be taken forward which you are proud of and also which puts you in a great position for sitting your final examination.</p> | <p>The Contextual Challenges are published during the Spring Bank half term, we then introduce these to you on return where you then begin your NEA. This will continue until March of Year 11, so make sure you choose something you are enthusiastic about!</p> |

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|  | <p>You will then investigate the context to decide on an initial problem to solve.</p> | <p>your work after each deadline, offer general feedback (as this is all we are allowed to do) and then give a second deadline for the final completion of that section.</p> |  |  |
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