

Year 12 – Product Design Curriculum

	What will I learn?	How will I learn it?	Why is it important that I learn this?	Why am I learning this now?
Year 12 Half Term 1	<p>An Introduction to the A Level Product Design course.</p> <p>We have 3 teachers delivering lessons in year 12, we run a range of mini-projects, focussing on building different skills and strengths within designing and the workshop environment; but also highlighting any areas we need to focus on to support you in your learning to ensure you are ready for both the NEA and preparing well for the examination. All projects run alongside theory lessons from each teacher also. There are 12 units of theory to cover so expect 3 of your lessons a fortnight to be based on theory.</p> <p>The specification link for Edexcel A Level D&T is here: https://qualifications.pearson.com/en/qualifications/edexcel-a-levels/design-technology-product-design-2017.html</p> <p>Pewter Casting - using the CNC Router to create a mould.</p> <p>Trinket Bowl – using the wood turning lathe.</p> <p>SketchUp Challenge – using the web based SketchUp to build confidence in 3D design – this also links to the 3D printer so you can create what you draw!</p>	<p>Each mini-project will focus on the development of designing and manufacturing skills, all projects will be assessed on the quality and creativity shown throughout the project. Teacher feedback will be given as well as verbal guidance throughout. Theory will be delivered, revision resources created and knowledge checked through examination style questioning; building up your examination techniques for answering a wide range of questions.</p>	<p>A versatile Product Designer should be confident using a wide range of skills and materials to enable them to design products of any type and therefore reduce limitations when designing. We are striving to achieve this in every student during this course.</p>	<p>This half term is a great introduction to A Level Product Design, allowing students to further progress skills and knowledge from their GCSE. This lays the foundations needed to complete the NEA to a high standard but also starts the building blocks for the examination which covers a lot of similar topics as the GCSE but to a much deeper level.</p>

	<p>Modelling Skills – using modelling materials such as Styrofoam, card and Foamboard.</p> <p>Aluminium Challenge – A range of skills demonstrated, 1 piece of Aluminium, your challenge is to manufacture a product using a range of the skills</p> <p>Enamelling – Jewellery making using the enamelling kit.</p>			
Year 12 Half Term 2	<p>Completion of the ‘mini-projects’ and starting the NEA in November. The NEA is worth 50% of the final grade and students can decide on their own context to investigate.</p> <p><u>Identification and Investigation of a Design Possibility – 5 weeks for completion</u></p> <p>Here you will carry out an in-depth investigation in to your chosen context to lead to a design problem you wish to solve.</p>	<p>Once the mini-projects are complete (October half term) we will begin the NEA. This is very similar to the GCSE NEA, with a lot of similar assessment sections, but a much higher level of work must be produced, using a greater depth of knowledge, showing advanced design skills and also using a professional client to imitate industry practice.</p> <p>Students will carefully choose their own context to firstly investigate and lead them to a problem they would like to solve.</p>	<p>It is incredibly important for you to choose a context which gives you a fire in your stomach. This will be what you focus on for the next 16 months! You will need to find a client who will be happy to work with you for this length of time also, a lot of students use family friends who have interests in their context such as Architecture, design, retail or even a target audience such as children.</p>	<p>This is the first stage in the major design and make course work. Without a problem to solve, there is nothing to design!</p>
Year 12 Half Term 3	<p>NEA Continues: <u>Investigation of Needs and Research – 6 weeks for completion</u></p>	<p>You will be based in a PC room/workshop so you can work as is necessary. You may</p>	<p>All designers work in different ways. Each year throughout our Product</p>	<p>At this stage you have had the training to now carry out work</p>

	<p>In this section you will investigate your chosen problem. You will involve your target group plus your professional client to see what their views and opinions are on the final outcome. You will find inspiration from various places such as the internet, in shops, or even at school and other places your target group use. From this you will be prepared for the next decision-making step...</p>	<p>want to create interview questions, research inspirational designers, find out how a certain part can be manufactured and practise this. Whatever you need to do, our A Level gives you the freedom to work in this way.</p>	<p>Design course, from year 7; we have allowed more freedom to create products. At A Level, we expect that you can now decide what YOU need to do as your next step. We offer guidance and support but you decide who you need to speak to and what information you are lacking to move on to the next step.</p>	<p>independently and to a high level of success.</p>
<p>Year 12 Half Term 4</p>	<p><u>Design Brief and Specification – 2 weeks for completion</u></p> <p>Decision Time! You will summarise your findings from the research section to create a Design Brief of Intent, and also your Design Specification – this is a bullet pointed list of all requirements for the end product.</p> <p><u>Design Ideas including a Review of Ideas – 7 weeks for completion</u></p> <p>You will show your creative skills and create a range of ideas with 4 ideas shown in detail. You will show off your CAD SketchUp skills, you may model at this stage but also you will include freehand sketching and annotation of ideas.</p>	<p>We will offer guidance in the delivery of these sections, explaining how it can be done, discussing the assessment criteria e.g. what is required, offering examples of different ways this work can be completed. All support documentation will be available throughout the course on Google Classroom so you can complete the work at school or at home, when you need to. As for designing, skills will be revisited and all students should feel confident when completing this section.</p>	<p>As a designer you need a Design Brief and Specification for most projects. This gives you criteria to keep to, your own guidance to work to and also your user groups needs and wants.</p> <p>Its always hard to create a wide range of ideas, but this gives you the best chance of a creative and successful outcome.</p>	<p>Once you have gathered all the needed information and then gone on to make decisions, you are ready to start designing, take some risks and challenge yourself!</p>

Year 12 Half Term 5	<p>Once the Design section has been handed in...</p> <p><u>Design Development – 7 weeks for completion</u></p> <p>This is a chance to develop your chosen idea in to a successful final design. You will carry out further research, modelling to experiment and test ideas, gather inspiration, speak to your client and user group and summarise all your findings to make decisions and progress your idea in to a final design.</p>	<p>To develop your ideas, you will take the 'iterative' approach. This means you will constantly be reviewing, reflecting and improving, for example; trying to solve a problem through modelling, evaluating the effectiveness of how this works, asking others in your target group and your client what they think, reflecting on their feedback, making further changes to gain a successful solution. This will be done several times to ensure all problems are solved and the best final design decided upon.</p>	<p>All designers develop their ideas before they decide to go ahead and make something. James Dyson created over 5,000 vacuums before he made the first bagless vacuum he marketed!</p>	<p>This will lead in to the final design section, where you state what you are going to make. This section is your last chance to change, develop and progress your idea in to something special.</p>
Year 12 Half Term 6	<p><u>Final Design – 4 weeks for completion</u></p> <p>You will create a Manufacturing Specification which includes all information for a third party to be able to manufacture your product exactly how you want it, this may include orthographic drawings, costings, manufacturing plans, cutting lists etc.</p> <p><u>Review of Ideas – 2 weeks for completion</u></p>	<p>You will be shown previous examples, have the assessment criteria discussed with you, you will have a chance to ask any questions you'd like before attempting this section.</p>	<p>This is where you show your final design, how it will be made and all the details to go with it.</p>	<p>This is the final preparation before the making starts – by the end of this stage you will know all there is to know about your final product, how every joint fits, what needs to be purchased to create it, what your client thinks of it and how you are going to make it in September!</p>

	You will evaluate your final design against your Specification to ensure you are going to manufacture the best possible product for your user group.			
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