

Year 9 Design & Technology - Architecture CAD

Learning Programme 4

<p>The LORIC skill focus for his LP is: INITIATIVE.</p> <p>The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.</p> <p>Integrity - Having strong moral principles.</p> <p>Gratitude - Feeling and expressing thanks.</p> <p>What will I be learning about in this Learning Programme?</p> <p>To analyse the work of past and present designers. To communicate building design ideas in 2D and 3D, using sketches and 3D CAD software.</p> <p>Where have I seen this learning before?</p> <p>In Year 7 and 8 you will have developed your 2D and 3D drawing skills. You will have used 2D CAD software in Year 8 to design a Night Light.</p> <p>What could I use it for?</p> <p>You will apply these CAD skills extensively when designing and modelling your ideas for your GCSE Design and Technology non-examined assessment.</p>		<p>Literacy:</p> <ul style="list-style-type: none"> Capital letters must be used at the start of sentences and for the first letter of proper nouns Full stops must be used at the end of a sentence Question marks must be used at the end of a question Apostrophes should only be used for possession or omission Days of the week and months must be spelled correctly Key words must be spelled correctly
<p>In LP4.1, I will know:</p> <p>what style of buildings & facilities Ellesmere Port currently has; how to present a technical drawing in 2D orthographic projection.</p>	<p>10/03/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Orthographic</p>	<p>Homework</p> <p>Research task on local architecture.</p>
<p>In LP4.2, I will know:</p> <p>how to convert an orthographic drawing into an isometric projection.</p>	<p>17/03/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Isometric</p>	<p>Homework</p> <p>Isometric drawing task.</p>
<p>In LP4.3, I will know:</p> <p>how to draw the 3D graphical techniques of one point and two point perspective; the difference between computer aided design (CAD) and traditional drawing methods.</p> <p>Extended Task.</p>	<p>24/03/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Perspective</p>	<p>Homework</p> <p>One point perspective drawing task.</p>
<p>In LP4.4, I will know:</p> <p>the work of past and present designers; the timeline of important design movements.</p>	<p>31/03/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Architecture</p>	<p>Homework</p> <p>Two point perspective drawing task.</p>
<p>In LP4.5, I will know:</p> <p>how to apply a range of CAD tools in SketchUp.</p>	<p>21/04/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Orbit</p>	<p>Homework</p> <p>Create a floor plan and calculate the area.</p>
<p>In LP4.6, I will know:</p> <p>how to use 3D CAD to render my building using a variety of different materials.</p> <p>Extended Task.</p>	<p>28/04/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Presentation</p>	<p>Homework</p> <p>Convert orthographic drawing to isometric drawing.</p>
<p>In LP4.7, I will know:</p> <p>how to present my architectural building project to my peers for feedback; how to evaluate my final design and identify improvements.</p>	<p>05/05/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Evaluation</p>	<p>Homework</p> <p>Use knowledge organiser to complete a learning review task.</p>
<p>Resources to support learning:</p> <p>The following websites contain extensive revision material and information to increase design & technology subject knowledge:</p> <p>www.technologystudent.com;</p> <p>www.mr-dt.com;</p> <p>www.bbc.co.uk/bitesize.</p>		
<p>FFET Award Challenge for this Learning Programme:</p> <p>Complete a two minute oral presentation to showcase your building design to your peers.</p>		



Year 9 Design & Technology - Computer Control & Metals

Learning Programme 4

<p>The LORIC skill focus for his LP is: INITIATIVE.</p> <p>The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.</p> <p>Integrity - Having strong moral principles.</p> <p>Gratitude - Feeling and expressing thanks.</p> <p>What will I be learning about in this Learning Programme?</p> <p>How to apply computing to embed intelligence in products; how to use programmable components that respond to inputs and control outputs. How to use block-based programming language to control a buggy. The source, categories and types of metals; the impact of metal processing has on the environment. How designers use a range of design influences and tessellation to create original ideas.</p> <p>Where have I seen this learning before?</p> <p>In Year 8 design & technology you will have learnt about electronic systems using input, process and output components. You will have used computer aided design. You will have learnt about the sources of different materials and how they are processed including their impact on the environment.</p> <p>What could I use it for?</p> <p>You will apply your knowledge of computer control and metal materials when studying the GCSE Design & Technology exam. You can use hand tools to create metal items in your everyday life.</p>		<p>Literacy:</p> <ul style="list-style-type: none"> Capital letters must be used at the start of sentences and for the first letter of proper nouns Full stops must be used at the end of a sentence Question marks must be used at the end of a question Apostrophes should only be used for possession or omission Days of the week and months must be spelled correctly Key words must be spelled correctly
<p>In LP4.1, I will know:</p> <p>how computing can embed intelligence in product through the use of programmable components; that the Crumble microcontroller is a programmable component that has inputs and outputs; how to construct a crumble programmable buggy structure.</p>	<p>10/03/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Microcontroller</p>	<p>Homework</p> <p>Microcontrollers in everyday products.</p>
<p>In LP4.2, I will know:</p> <p>how to create simple block-based programming to control crumble output components.</p>	<p>17/03/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Coding</p>	<p>Homework</p> <p>Design a livery for the Crumble Buggy.</p>
<p>In LP4.3, I will know:</p> <p>how to programme the crumble buggy to create motion.</p> <p>Extended Task.</p>	<p>24/03/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Analogue</p>	<p>Homework</p> <p>Advantages & disadvantages of programmable components.</p>
<p>In LP4.4, I will know:</p> <p>how to programme the crumble buggy so that it performs a variety of tasks; how to problem solve errors in a code.</p>	<p>31/03/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Autonomous</p>	<p>Homework</p> <p>New and emerging technologies.</p>
<p>In LP4.5, I will know:</p> <p>the source of metals and how they are processed into stock forms; the difference between ferrous, non-ferrous and alloy metals.</p>	<p>21/04/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Ore</p>	<p>Homework</p> <p>Identifying metals.</p>
<p>In LP4.6, I will know:</p> <p>the names, properties and uses of different metal types; how to present original ideas for the mobile phone holder, using sources of inspiration.</p> <p>Extended Task.</p>	<p>28/04/25 - (WK 1)</p> <p>Key Vocabulary</p> <p>Inspiration</p>	<p>Homework</p> <p>Metals & the environment.</p>
<p>In LP4.7, I will know:</p> <p>how tessellation is used in manufacturing and why it is important; the four different scales of production and the differences between them.</p>	<p>05/05/25 - (WK 2)</p> <p>Key Vocabulary</p> <p>Tessellation</p>	<p>Homework</p> <p>Orthographic projection of mobile phone.</p>
<p>Resources to support learning:</p> <p>The following websites contain extensive revision material and information to increase design & technology subject knowledge:</p> <p>www.technologystudent.com;</p> <p>www.mr-dt.com;</p> <p>www.bbc.co.uk/bitesize.</p>		
<p>FFET Award Challenge for this Learning Programme:</p> <p>Computer Control - Create an informative poster/ video/ blog/ vlog about New & Emerging Technologies</p>		

PRT Task 1

PRT Task 2

Year 9 Design & Technology - Product Design & Manufacturing Learning Programme 4

The LORIC skill focus for his LP is: INITIATIVE. The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.			Literacy: <ul style="list-style-type: none">• Capital letters must be used at the start of sentences and for the first letter of proper nouns• Full stops must be used at the end of a sentence• Question marks must be used at the end of a question• Apostrophes should only be used for possession or omission• Days of the week and months must be spelled correctly• Key words must be spelled correctly
Integrity - Having strong moral principles. Gratitude - Feeling and expressing thanks.			
What will I be learning about in this Learning Programme? How designers use a range of design influences and tessellation to create original ideas. The four scales of production and the differences between them. What quality control is and how to apply this when manufacturing with different materials. How to manufacture safely in the workshop.			
Where have I seen this learning before? In Year 7 & 8 design & technology you will have used these tools and equipment to make prototypes from timbers, papers & boards, textiles and polymers. You will have learnt about the sources of different materials and how they are processed.			
What could I use it for? You can use metal, timbers and polymer materials to manufacture products in design & technology over your next 5 years; you will apply your knowledge of metals in the GCSE Design & Technology exam. You can use hand tools to create products in your everyday life.			
In LP4.1, I will know: 10/03/25 - (WK 2) Key Vocabulary Homework			
what is meant by quality assurance and quality control in manufacturing.		Quality	Calculating area and tessellation.
In LP4.2, I will know: 17/03/25 - (WK 1) Key Vocabulary Homework			
how to make and use a jig to manufacture identical products; how to use a range of precise wastage skills to cut and shape my holder.		Template	Scales of production.
In LP4.3, I will know: 24/03/25 - (WK 2) Key Vocabulary Homework			
how to use a range of precise abrading skills to shape my holder, using a file or abrasive paper.		Abrading	Composite materials.
Extended Task.			
In LP4.4, I will know: 31/03/25 - (WK 1) Key Vocabulary Homework			
how to finish the edges and surfaces of my mobile phone holder design.		Development	Metal manufacturing processes.
In LP4.5, I will know: 21/04/25 - (WK 2) Key Vocabulary Homework			
how to accurately cut a threaded bar and file the burred edges to make safe.		Thread	Quality Control.
In LP4.6, I will know: 28/04/25 - (WK 1) Key Vocabulary Homework			
how to assemble and finalise the manufacture of my phone holder.		Finalise	Metal stock forms.
Extended Task.			
In LP4.7, I will know: 05/05/25 - (WK 2) Key Vocabulary Homework			
how to test and evaluate the design and manufacture of my mobile phone holder.		Evaluate	Manufacturing diary.
Resources to support learning: The following websites contain extensive revision material and information to increase design & technology subject knowledge: www.technologystudent.com; www.mr-dt.com; www.bbc.co.uk/bitesize.			
FFET Award Challenge for this Learning Programme: Create a mood board to assist with design inspiration. This can be based on nature, geometric forms, architecture or other forms of inspiration.			

