

Year 12 A Level Design & Technology - Product Design

Learning Programme 1

The LORIC skill focus for his LP is: LEADERSHIP The Moral Virtues focus for this LP are: COURAGE and HUMILITY. Courage - Acting with bravery and overcoming fears. I will show courage by answering a question in class even when I'm not 100% sure of the answer. Humility - Having a modest view of oneself. I will show humility by admitting mistakes and asking for help when needed.			Literacy Non-Negotiables: • 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 • Vocabulary to be taught using the Frayer model	
What will I be learning about in this Learning Programme? The source material (origin) and processing methods of a range of materials used in DT; the classification of material types, properties and uses, focusing on timbers, metals and polymers. How designers use different graphical techniques including digital design to communicate ideas. How designers use computer aided engineering to simulate and test design developments. Where have I seen this learning before? At both KS3 and GCSE D&T you will have explored and worked with a range of material types to make prototypes. You will have also had the opportunity to develop your graphical skills using both hand drawing techniques and CAD modelling. What could I use it for? You will apply your knowledge in the A Level D&T examination and will utilise your design skills & understanding in the A Level NEA, the Iterative Design Project.				
In LP1.1, I will know: how the OCR A Level Design & Technology: Product Design qualification is structured; the factors that influence material selection (5.1a); how to define the properties of materials (5.3a).	01/09/26 - (WK 1)	Key Vocabulary Properties		Homework Material properties.
In LP1.2, I will know: the origins of timbers and how they are processed into stock forms (3.2c), considering environmental impact (3.1a); the difference between hardwood and softwood timbers, identifying types and properties of each (5.2a.i); how design solutions are communicated to a third party (4.1a); how to apply a range of hand drawing graphical communication techniques.	07/09/26 - (WK 2)	Key Vocabulary Conversion		Homework Environmental impact of processing timbers. Graphical communication.
In LP1.3, I will know: the difference between natural and manufactured boards; the advantages and disadvantages of natural and manufactured boards (5.2a.ii); how design constructions are communicated to inform third parties such as manufacturers (4.1b). Extended Task.	14/09/26 - (WK 1)	Key Vocabulary Laminated	Homework Timber types and products. Working drawings.	
In LP1.4, I will know: the origins of metals and how they are processed into stock forms (3.2c); the environmental impact of producing and manufacturing with metals (3.1a); how industry professionals use digital tools to collaborate (4.2a).	21/09/26 - (WK 2)	Key Vocabulary Extraction	Homework Environmental impact of processing metals. Computer aided design tools.	
In LP1.5, I will know: the difference between ferrous and non-ferrous metals, identifying types and properties of each (5.2a.iii); why metal alloys are produced, identifying types and properties (5.2a.iv); how digital design software is used during design development (4.2b).	28/09/26 - (WK 1)	Key Vocabulary Corrosion	Homework Metal types and products. Computer aided engineering.	
In LP1.6, I will know: the origins of polymers and how they are processed into stock forms (3.2c); the environmental impact of producing and manufacturing with polymers (3.1a); how different strategies are used to approach designing e.g. iterative/ UCD/ Circular economy/ systems thinking (4.3a). Extended Task.	05/10/26 - (WK 2)	Key Vocabulary Polymerisation	Homework Environmental impact of processing polymers.	
In LP1.7, I will know: the difference between thermoplastic and thermosetting polymers (5.2a.v); examples of thermoplastic and thermosetting polymers, and the properties of each (5.2a.v); the methods of collaboration to gain specialist knowledge (4.3b) and the approaches used by design teams in project management (4.3c).	12/10/26 - (WK 1)	Key Vocabulary Curing	Homework Polymer types and products.	
Resources to support learning: The following websites contain extensive revision material and information to increase design & technology subject knowledge: www.mr-dt.com ; www.bbc.co.uk/bitesize . Product design maker YouTube tutorials www.productdesignermaker.com ; Jude Pullen's Lockdown Lectures from Bangor University - YouTube.				
FEET Award Challenge for this Learning Programme: Complete a complex 2D and 3D CAD & CAM challenge.				

