The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 12 Design & Technology Product Design
Learning Programme 4

The LORIC skill focus for this LP is: INITIATIVE.
The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.

Integrity - Having strong moral principles. I will show integrity by taking responsibility for my actions.
Gratitude - Feeling and expressing thanks. I will show gratitude by saying please and thank you.

What will I be learning about in this Learning Programme?

How to initiate my Iterative Design Project by exploring the feasibility of potential design contexts. To know the characteristics of different scales of production. To know types of the automated handling systems in manufacturing and distribution. To understand quality control, quality assurance, Total Quality Management (TQM), British and European Standards, intellectual property, ethics, economy and globalisation. To know the methods of testing design solutions and how designers test the feasibility of getting products to market and the standards met in design solutions / physical testing required to meet

Where have I seen this learning before?

At GCSE level you will have explored given contexts when completing your GCSE NEA in year 11. At GCSE level in Design & Technology you will also have learnt about a range of manufacturing processes as well as how products are manufactured to different scales of production according to demand.

What could I use it for?

You will apply your knowledge to different manufacturing processes to produce prototypes for your A level exam and non-examined assessment. You will be able to identify how a range of everyday products are manufactured.

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

In LP4.1, I will know: 09/03/26 - (WK 2)	Frayer Model Words	Homework
my strengths and areas for development for my learning so far; how to present real time evidence of each potential design context; how materials are joined together through temporary and permanent processes (7.2a).	Standard components	Mind mapping - 5Ws strategy. Materials joining methods.
In LP4.2, I will know: 16/03/26 - (WK 1)	**Frayer Model Words**	**Homework**
the different scales of production and how these are influenced by consumer demand (7.4a); how automated handling systems are used in commercial manufacturing (7.3a).	Scales of production	Scales of production.
In LP4.3, I will know: 23/03/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to present feasibility studies for each design context; how to present a marketability survey using charts and graphs; how manufacturers ensure consistent accuracy and optimisation quality during manufacture (7.3b). Extended Task.	Optimise	Feasibility study - marketability surveys. Accuracy in manufacturing.
In LP4.4, I will know: 13/04/26 - (WK 1)	**Frayer Model Words**	**Homework**
why manufacturers need to optimise the use of materials and production processes (7.3c); how ICT and digital technologies are changing modern manufacturing (7.4b).	Additive manufacture	ICT and digital technology in manufacturing.
In LP4.5, I will know: 20/04/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to present a design brief for my selected design context and identify stakeholders; how to plan for the project management of my iterative design research.	Project management	Project management plan for research.
In LP4.6, I will know: 27/04/26 - (WK 1)	**Frayer Model Words**	**Homework**
how the quality of products is controlled through manufacture, by utilising a range of quality assuring processes (7.5a); which standards need to be meet when getting products to market (BSI, ISO) (8.1d). Extended Task.	Standards	BSI, ISO Standards.
In LP4.7, I will know: 04/05/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to compile a primary user interview to collect and present user requirements, to determine commercial viability.	Commercial viability	Interview primary user. Commercial viability.

PRT Task 1

PRT Task 2

Resources to support learning:

The following websites contain extensive revision material and information to increase design & technology subject knowledge: www.technologystudent.com; Product design maker YouTube tutorials www.productdesignermaker.com; Jude Pullen's Lockdown Lectures from Bangor University - YouTube.

FFET Award Challenge for this Learning Programme:

Complete a computer aided design challenge.