LDA Engineering Design Curriculum Pathway

- Title of unit
- Dean Trust Curriculum Values
- Knowledge: What I will know
- Skill: What I will be able to do
- Enrichment

Employment
Further Education
Apprenticeships
Ambition & Aspiration

Continue your lifelong love of Engineering design.

YEAR 11

R016, RO17, RO18. Targeted Intervention.

Legislation and quality
Half-term study support
Product disassembly
Product analysis
Commercial production methods
Manufacturing processes

RO16. Product Analysis and Research

Global Citizenship
Study support
Product end of life (disposal of toxic materials)
Problem solving
Exploded diagrams
Ambition & Aspiration
Careers Interviews
Healthy in Mind, Body & Soul

R017

YEAR 10

R017. Developing & Presenting Engineering Designs

Use specialist tools & equipment
Orthographic Projection
Human Factors
Isometric Projection
Communication of ideas
CAD
Problem solving
Modelling & prototyping
Production diary
Practical skills
Planning (Gantt charts/ flow charts)
CAM
Sustainable design

RO18 3D Design Realisation

The design cycle
Engineered drawings
User needs
Design Realisation. Practical Skills
Design for maintenance
Design needs
Powerful Knowledge
Design specification requirements
Product requirements
Life Cycle Analysis
New & emerging materials
Health & safety

RO15. Throughout KS4

YEAR 9

Analysis & Evaluation
Product in a tin club
Smart & modern materials
Timber processes
Maths (tolerance and wastage)
Isometric & Orthographic Projection
Considering the needs of others
Options process input on Careers
Powerful Knowledge
Considering real world issues
Design & verbal communication
Testing & modelling
CAD club
Critical thinking
Considering the needs of others
Workshop Skills

Design and Make Project | **Bottle Opener** | **Contextual Design**

YEAR 8

CAD club
Function of packaging: PICTPD
Collaboration
Lever & Linkages
Isometric Projection
Timbers 2
Motion & CAMS
Workshop Skills
ACCESSFM
Product analysis & evaluation
Human Factors
Global Citizenship
Polymers
Papers & Boards
Sustainability & 6R's
CAD/ CAM
Forces & structures
Maths (Volume)

Forces and Structures | **Sweet Machine** | **Ear phone Wrap**

Analysis & Evaluation

YEAR 7

Timbers
Calculating area (square)
CAD club
Conversion cm - mm
Colour theory
Health & Safety
Maths (area)
Workshop Introduction
1 & 2 point perspective drawing

Practical Skills | **Design Skills**

YEAR 6

LDA Summer school
LDA Taster Days
Supporting transition

Transition to LDA

Believe . Achieve . Succeed

Curriculum Values at LDA

The Curriculum at Lord Derby Academy is highly **ambitious** for **ALL** pupils and built on the **Dean Trust Curriculum Values:**

Design & Technology Curriculum Statement of Intent:

To develop the power of creativity through the process of investigation, analysis, designing, making and evaluation.