

A Level Design and Technology



Pre-course information Preparation for Years 12 / 13

[Edexcel AS & A level Design and Technology -
Product Design \(2017\) | Pearson qualifications](#)

Specification

Pearson Edexcel Level 3 Advanced GCE in Design and Technology

(Product Design) (9D70)

First teaching from September 2017

First completion from 2019

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Unit number and title	Assessment information
<p>Component 1: Principles of Design and Technology</p> <p>Paper code (9TD0 / 01)</p> <p>Written examination</p> <p>50% of overall qualification</p> <p>120 marks</p>	<p>The unit is assessed through a 2 hour 30 minute examination paper set and marked by Edexcel in the Year 13.</p> <p>The paper will be a question and answer booklet and all questions in the paper are compulsory.</p> <p>The paper will consist of short-answer and extended-writing type questions and will be based on the following topic areas:</p> <ul style="list-style-type: none"> • Topic 1: Materials • Topic 2: Performance characteristics of materials • Topic 3: Processes and techniques • Topic 4: Digital technologies • Topic 5: Factors influencing the development of products • Topic 6: Effects of technological developments • Topic 7: Potential hazards and risk assessment • Topic 8: Features of manufacturing industries • Topic 9: Designing for maintenance and the cleaner environment • Topic 10: Current legislation • Topic 11: Information handling, Modelling and forward planning • Topic 12: Further processes and techniques.

Component 2:
Independent Design
and Make Project

Paper code:
(9DT0 / 02)

Non-examined
assessment

50% of overall
qualification

120 marks

This unit is internally set and marked by the centre and externally moderated by Edexcel.

Students will produce a substantial design, make and evaluate project which consists of a portfolio and a prototype.

The portfolio will contain approximately 40 sides of A3 paper (or electronic equivalent)
There are four parts to the assessment:

Part 1: Identifying and outlining possibilities for design

Identification and investigation of a design possibility, investigation of client/end user needs, wants and values, research and production of a specification

Part 2: Designing a prototype

Design ideas, development of design idea, final design solution, review of development and final design and communication of design ideas

Part 3: Making a final prototype

Design, manufacture and realisation of a final prototype, including tools and equipment and quality and accuracy

Part 4: Evaluating own design and prototype

Testing and evaluation

Resources needed

- A set of drawing pencils, ranging from 2H to 3B, or a mechanical pencil with different lead sizes.
- A range of black pens (fine liners to Sharpies)
- A ruler, eraser, sharpener, maths set.
- Colouring medium of your choice, (watercolours / twin nib markers)
- A Lined hole punched A4 Pad / Book for theory note taking.
- A lever arch folder with dividers for storing notes / theory resources.

Practical skills

- To run alongside theory topics 1 – 3, you will be using a range of materials and trialling a series of manufacturing processes.
- You should be able to explain how the process works, how the material reacts and apply this to both examination questions and in your annotation for the NEA portfolio.

Practical skills

- Mini practical lessons will focus on the key manufacturing processes you need for your NEA project.
- We will specifically look at Timbers, Metals & Polymers.



DESIGN podcasts / magazines

[99% Invisible \(99percentinvisible.org\)](http://99percentinvisible.org)

A long series of podcasts about products and other ways in which design has impacted the world

[BBC Radio 4 - Things That Made the Modern Economy](#)

Podcast about ideas and inventions that created the modern world

[Design | Dezeen](#)

Digital Design orientated magazine with architecture based podcasts

[Design | Colossal \(thisiscolossal.com\)](http://thisiscolossal.com)

Design magazine/articles

Manufacturing in Industry

- [BBC Four - How to Make](#)
- [BBC Four – Handmade](#)
- [BBC Two - Flatpack Empire](#)
- [How It's Made – YouTube](#)
- [The future of design | WIRED with Braun – YouTube](#)

Drawing / presentation Techniques

[product designer maker – YouTube](#)

[How To Sketch Like A Product Designer – YouTube](#)

[Armchair | Industrial & Product Design Sketching – YouTube](#)

[HOW TO SHADE WITH MARKERS BASICS - YouTube](#)

Design Principles

- [The first secret of great design | Tony Fadell – YouTube](#)
- [Ten Principles for Good Design By Dieter Rams – YouTube](#)
- [The Light Bulb Conspiracy \[Extended Version\] – YouTube](#)
- [Design For Life BBC – YouTube](#)

Free design courses (open university)

- [Design - OpenLearn - Open University - T173 1](#)
- [Design thinking - OpenLearn - Open University - U101 1](#)
- [An introduction to design engineering - OpenLearn - Open University - T192 1](#)
- [An introduction to interaction design - OpenLearn - Open University - TM356 1](#)
- [People-centred designing - OpenLearn - Open University - T211 1](#)