

A-Level Design & Technology Product Design Curriculum Map



Curriculum Map

NEA Section: Section E
– Analysing and evaluating

- Testing
- Critical analysis
- Critical evaluation
- Modification

AO3: Analyse and evaluate

- design decisions and outcomes, including for prototypes made by themselves and others
- wider issues in design and technology.

Written exam Paper 1
Technical Principles
30% of overall grade

- 2 hours and 30 minutes
- 120 marks
- Mixture of short answer and extended response

AO4: Demonstrate and apply knowledge and understanding of:

- technical principles
- designing and making principles.

Written exam Paper 2

Designing & Making Principles
20% of overall grade

- 1 hour and 30 minutes
- 80 marks
- Mixture of short answer and extended response questions.
- **Section A: Product Analysis:** 30 marks
- Up to 6 short answer questions based on visual stimulus of product(s).
- **Section B: Commercial manufacture:** 50 marks
- Mixture of short and extended response questions

NEA Section: Section D – Development of design prototypes

- The use of high level practical skills to develop and refine design prototypes
- The use of CAM

NEA Section: Section C – Development of design proposals

- Design proposals
- Further investigation
- Modelling
- Working drawings
- Plans
- Use of CAD

AO2: Design and make prototypes that are fit for purpose.

NEA Section: Section B – Producing and design brief and specification

NEA Section: Section A – Research and investigation.

- Context
- Potential User
- Investigation (primary & Secondary)
- Practical Examination
- Disassembly
- Concept ideas

AO1: Identify, investigate and outline design possibilities to address needs and wants.

Unit learning: This term pupils will cover the following topics:

- Critical analysis
- Selecting tool and processes for the correct material
- Accuracy in design and manufacture
- Responsible design
- Design for manufacture
- International standards

Begin Non Examined Assessment (coursework) worth 50% of overall A level.

Designing & Making principles

Unit learning: This term pupils will cover the following topics:

- Design methods
- Design history
- Design movements
- Key designers
- Major developments in technology
- Design processes

Unit learning: This term pupils will cover the following topics:

- Requirements of product design
- Health and safety issues within manufacture.
- Protecting designs
- Design for manufacture
- Feasibility studies
- Enterprise
- Design communication

Year 12

Unit learning: Material properties – physical and working, The classifications, uses and material properties for

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|------------------|--------------------|
| • Woods | • Smart materials |
| • Metals | • Modern materials |
| • Polymers | • Glass |
| • Paper & Boards | • Ceramics |
| • Composites | • Textiles |

Unit learning: This term pupils will cover the following topics:

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|-------------------------------|------------------------|
| • Workshop material testing | • Fabrication |
| • Industrial material testing | • Finishes |
| • Enhancement of materials | • Scales of production |
| • Wasting processes | • Digital design |
| • Redistribution | |

Technical principles

Resilience

Kindness

Respect

Curiosity

Collaboration

Endeavour