

# DArT Year 10 information evening

# GCSE Product Design & Textiles – what is the exam?

- 50% exam
- 2 hours
- Sat in Year 11 term 5/6
- Theory taught in Year 10 until 1<sup>st</sup> June will inform exam content
- Course overview shows all theory topics

# What will my child learn in Year 10?

- 3.1 Core technical principles
- 3.2 Specialist technical principles – textiles or timbers (PD)
- 3.3 Designing and making principles
  
- Students will have 3 theory booklets
- Students will learn a range of practical skills over the course of Year 10. These will be used in CW slides and assist students' understanding of making their final piece

# Where can my child get help?

## **MSTeams**

- All teaching PP
- Knowledge organisers
- Revision guides
- Past papers & mark schemes
- Booklets
- CW help and guidance exemplar

# How is the CW run?

- 50% CW or NEA (non-examined assessment)
- Starts 1<sup>st</sup> June in Year 10. Exam Board release 3 project titles.
- Students are expected to write their own design brief

Example:

- *Climate change*
- *Caring for animals*
- *A souvenir from a place of interest*
- **Top tip**
- It is really important for students to meet CW deadlines. Deadlines are split and chunked down. If students get behind, they do struggle to catch up

The assessment criteria for the NEA are split into six sections as follows.

|   | Section | Criteria   | Maximum marks |
|---|---------|--|---------------|
| AO1<br>Identify, investigate and outline design possibilities | A       | Identifying & investigating design possibilities | 10            |
|   | B       | Producing a design brief & specification         | 10            |
| A02<br>Design and make prototypes that are fit for purpose    | C       | Generating design ideas                          | 20            |
|   | D       | Developing design ideas                          | 20            |
|   | E       | Realising design ideas                           | 20            |
| A03<br>Analyse and evaluate                                   | F       | Analysing & evaluating                           | 20            |
|   | Total   |  | 100           |

| Term 1                              | 3.1 Core technical principles |                   |                              |                                    |                                       |
|-------------------------------------|-------------------------------|-------------------|------------------------------|------------------------------------|---------------------------------------|
| 3.1.1 New and emerging technologies | Industry & people             | Culture & society | Environment & sustainability | Production systems                 | Technology informing design decisions |
| 3.1.2 Energy generation & storage   | Fossil fuels                  | Nuclear power     | Renewable energy             | Energy storage systems & batteries |                                       |
| 3.1.3 New materials                 | Smart materials               | Modern materials  | Composite materials          | Technical textiles                 |                                       |
| 3.1.4 Systems approach to designing | Control systems               | Sensors           | Input & output devices       | Systems within design technology   |                                       |
| 3.1.5 Mechanical systems            | Types of movement             | Linkages          | Gears                        | Pulleys & belts                    |                                       |

| Practical                   |                                      |                        |          |                  |
|-----------------------------|--------------------------------------|------------------------|----------|------------------|
| Basic sewing machine skills | Winding the bobbin, changing needles | Sewing machine tension | Applique | Reverse applique |

| Term 2                                    | 3.1 Core technical principles                  |            |                             |      |                       |   |
|---|--|------------|-----------------------------|------|-----------------------|---|
| 3.1.6 Materials and properties            | Material categories                            |            | Material working properties |      | Material applications |   |
| Workbook 2                                | 3.2 Specialist technical principles – Textiles |            |                             |      |                       |   |
| 3.2.1 Selection of materials & components | Functionality                                  | Aesthetics | Availability                | Cost | Social factors        | Cultural & ethical factors<br>Environment |

| Practical                 |       |         |                 |                     |
|---------------------------|-------|---------|-----------------|---------------------|
| Applique/reverse applique | Tyvek | Tie dye | Slashing fabric | Hems, seams & darts |

| Term 3                       | 3.2 Specialist technical principles – Textiles  |                      |  |                                     |                                       |
|------------------------------|---|----------------------|--|-------------------------------------|---------------------------------------|
| 3.2.2 Forces & stresses      | Compression                                     | Tension              | Shear                                  | Torsion                             | Bending                               |
| 3.2.3 Sources & origins      | Where materials are sourced from                |                      | Converting materials into useable form |                                     |                                       |
| 3.2.4 Working with materials | Textile properties                              | Textile uses         | Modifying textiles                     | Textiles & commercial processes     | Shaping textiles by cutting & forming |
| 3.2.5 Stock forms            | Stock forms of textiles                         |                      | Components for joining textiles        |                                     |                                       |
| 3.2.6 Scales of production   | Volumes of production                           | Scales of production | Manufacturing methods                  | Production methods                  |                                       |
| 3.2.7 Specialist techniques  | Tools, equipment & processes to shape materials | Tolerance            | Commercial processes                   | Quality control & quality assurance |                                       |

| Practical |             |            |                |  |
|-----------|-------------|------------|----------------|--|
| Weaving   | Hand sewing | Mini dress | Mini dungarees |  |

| Term 4                         | 3.2 Specialist technical principles – Textiles |                                   |   |                                |
|--------------------------------|--|-----------------------------------|---|--------------------------------|
| 3.2.8 Surface finishes         | What is a finish & why are they important?     | Correct finishes for applications | How finishes are applied for one-off & industrial processes |                                |
| Workbook 3                     | 3.3 Designing and making principles            |                                   |   |                                |
| 3.3.1 Investigation            | Primary & secondary data                       | Ergonomics & anthropometrics      | Presenting data   | Design briefs & specifications |
| 3.3.2 Environmental challenges | Fair trade                                     |                                   | Deforestation   |                                |
| 3.3.3 The work of others       | The impact of designers                        |                                   | The impact of companies                                     |                                |
| 3.3.4 Design strategies        | Collaboration & user-centred design            | Systems approach                  | Iterative design process                                    | Drawing techniques             |

| Practical  |                |  |
|------------|----------------|--|
| Mini dress | Mini dungarees |  |

| Term 5                                    | 3.3 Designing and making principles         |                  |                                       |                                     |                    |
|---|---|------------------|---------------------------------------|-------------------------------------|--------------------|
| 3.3.4 Design strategies                   | Collaboration & user-centred design         | Systems approach | Iterative design process              |                                     | Drawing techniques |
| 3.3.5 Prototype development               | CAD modelling                               |                  | Prototyping                           |                                     |                    |
| 3.3.6 Selection of materials & components | Availability                                | Function         | Cost                                  | Quality control                     | Tolerance          |
| 3.3.7 Material management                 | Templates                                   | Patterns         | Jigs                                  | Cutting effectively to reduce waste | Allowances         |
| 3.3.8 Specialist tools & machinery        | Health & safety                             |                  | Working with tools & equipment safely |                                     |                    |
| 3.3.9 Specialist techniques & processes   | CAD/CAM<br>Laser cutting<br>Routing/milling | Lathes           | 3D Printing                           | CAD/CAM sewing machines             |                    |

|                         |                                     |
|-------------------------|-------------------------------------|
| Term 5                  | Year 10 summer mock exam 2 hours    |
| 1 <sup>st</sup> June    | AQA release NEA projects            |
| Term 6                  | NEA.                                |
| Summer holiday homework | Initial design ideas – rough drafts |



# Product Design and Textiles key dates

- Year 10 summer mock term 6
- Year 10 Start NEA 1<sup>st</sup> June
- Summer holiday HW – CW
  
- Year 11 November mock
- Year 11 NEA deadline February half term - 50% of final mark.
- Year 11 written exam (2 hours) 50% of final mark