

## **Product Design**

Course: Edexcel 9DT0

The Edexcel A level Product Design is offered at KS5. This enables students the continued opportunity to design and make at an advanced level and prepare them well for higher education. Students following this course will be required to undertake an examination at the end of the two year course as well as demonstrate their design and creativity skills by producing the commercial design element of the course

### **Content Summary for the examination;**

A two and a half hour written examination tests the students knowledge and understanding of the following content and equates to 50% of the qualification

#### **Component 1: Principles of Design and Technology**

##### **Content overview**

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.

##### **Assessment overview**

The paper includes calculations, short-open and open-response questions, as well as extended writing questions focused on:

- analysis and evaluation of design decisions and outcomes, against a technical principle, for prototypes made by others
- analysis and evaluation of wider issues in design technology, including social, moral, ethical and environmental impacts.

#### **Component 2: Independent Design and Make Project**

The independent design and make project enables students to demonstrate their creative and practical in developing a commercially viable product. A design folio and final product would be produced and assessed. This element of the course equates to 50% of the qualification.

### **Content overview**

- Students individually and/or in consultation with a client/end user identify a problem and design context.
- Students will develop a range of potential solutions which include the use of computer aided design and evidence of modelling.
- Students will be expected to make decisions about the designing and development of the prototype in conjunction with the opinions of the client/end user.
- Students will realise one potential solution through practical making activities with evidence of project management and plan for production.
- Students will incorporate issues related to sustainability and the impact their prototype may have on the environment
- Students are expected to analyse and evaluate design decisions and outcomes for prototypes/products made by themselves and others
- Students are expected to analyse and evaluate of wider issues in design technology, including social, moral, ethical and environmental impacts.

### **Assessment overview**

- The investigation report is internally assessed and externally moderated.
- 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

The specification used may be accessed from the link below:

<https://qualifications.pearson.com/content/dam/pdf/A%20Level/Design%20and%20Technology%20-%20Product%20Design/2017/specification-and-sample-assessments/Specification-GCE-L3-A-level-in-Design-and-Technology.pdf>