

Course title: A Level Design and Technology -Product Design (Block A)

Academic year:	2022
Course Venues:	The Weston Road Academy
Course Type:	A-level – 9DT0
Course Code:	TBC
Duration:	2 years

Course Description:

Edexcel/ Persons A Level Design and Technology Product Design will help students to recognise design needs and develop an understanding of how global issues and the latest technologies have an impact on the world around them. Students will: learn and apply key design skills that prepare them for the modern world build confidence to take design risks through the encouragement of innovation and creativity develop an understanding of new and emerging technologies.

Additional Information:

- Suitable for a diverse range of students who wish to develop their interest in, and enjoyment of Design and Technology, allowing them to work to their strengths
- Equipping students with design skills for the future - Students will be able to recognise design needs and develop an understanding of how current global issues, including integrating technology, impacts on today's world.
- Students will have the confidence to innovate and prod
- Students will have a coherent experience of moving from the breadth of the GCSE to the specialisation depth of A level and beyond.
- Updated content reflecting developments in Design and Technology and new technologies.
- A broad course in Product Design.
- Students who wish to work in a variety of areas according to their interest
- Students will realise potential solutions through practical making activities with evidence of project management and plan for production.

Course Content:

Component 1: Principles of Design and Technology (Paper code: 9DT0/01) Written examination: 2 hours 30 minutes, 50% of the qualification, 120 marks.

Students will be required to apply knowledge and understanding of a wide range of materials; including modern and smart materials, and processes used in product design and manufacture. They will be required to develop an understanding of contemporary industrial and commercial practices applied to designing and manufacturing products, and to appreciate the risks involved. Students should have a good working knowledge of health and safety procedures and relevant legislation. Students must have a sound working knowledge of the use of ICT and systems and control, including

modern manufacturing processes and systems, and students will be expected to understand how these might be applied in the design and manufacture of products.

Component 2: Independent Design and Make Project (Paper code: 9DT0/02) Non-examined assessment, 50% of the qualification, 120 marks.

The purpose of this component is to undertake a substantial design, make and evaluate project which will test students' skills in designing and making a prototype. The term 'prototype' means an appropriate working solution to a need or want that is sufficiently developed to be tested and evaluated (for example, full-sized products, scaled working models or functioning systems). Students are required to individually and in consultation with a client/end user identify a design possibility and design context from which they develop a range of potential solutions and then realise one through practical making activities. The project must allow candidates to apply knowledge and understanding in a product development process to design, make and evaluate prototypes. In this project, students will be encouraged to use creativity and imagination when applying iterative design processes to develop and modify designs, and to design and make prototypes that solve real world problems, considering others' needs, wants and values. There are no limits to project selection beyond the time and resources available and the appropriateness of selection in matching individual students' potential. Students are expected to take ownership of all aspects of their work in this project, in order to allow them total control of their responses and to target assessment criteria effectively, and to maximise their achievements. In order to reach high attainment levels, students must adopt a commercial design approach to their work.

Entry requirements: The standard entry criteria to study in the sixth form are a 9-4 in at least seven different subjects, including English and mathematics, which would usually be at grade 4 or above.

To study other subjects already taken at GCSE you must achieve at least a grade 5 or above in that subject.

Assessment:

The assessments will measure how students have achieved the following assessment objectives:

Component 1: Principles of Design and Technology (Paper code: 9DT0/01) Written examination: 2 hours 30 minutes 50% of the qualification 120 marks

- The paper includes calculations, short-open and open-response questions, as well as extended-writing questions focused on:
 - o analysis and evaluation of design decisions and outcomes, against a technical principle, for prototypes made by others
 - o analysis and evaluation of wider issues in design technology, including social, moral, ethical and environmental impacts.
- Students must answer all questions.
- Students must have calculators and rulers in the examination.



Component 2: Independent Design and Make Project (Paper code: 9DT0/02) Non-examined assessment 50% of the qualification 120 marks

The investigation report is internally assessed and externally moderated. Students will produce a substantial design, make and evaluate a project that 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 idea, development of design idea, final design solution, review of development and final design and communication of design idea.

Part 3: Making a final prototype design, manufacture and realisation of a final prototype, including tools and equipment and quality and accuracy.

Part 4: Evaluation of own design/s and prototype.

Financial Information:

Students will be required to obtain materials and resources, which are appropriate to their intentions.





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