

# Design and Technology

## AQA A-level Design and Technology: Product Design (7552)

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### Introduction

Design and Technology teaches and develops key skills necessary for 21st century living and employment, such as creative problem solving, investigative research, innovative use of materials and technologies, empathy, and high-level IT skills in 2D/3D CAD and DTP, as well as the Office suite.

Previous students have valued being able to practically apply their knowledge and gain a working understanding of materials and processes prior to starting an Engineering or Architecture degree.

We are well resourced and look to build our range of materials and processes each year to ensure students can utilise both traditional and up-to-date technology.

### Subject Requirements

Ideally students should have achieved at least a Grade 7 at GCSE, however we will consider students who have not studied DT at GCSE on a case-by-case basis. Successful A-level candidates are intelligent and creative problem-solvers who think outside the box, and have a genuine interest in design and its impact.

### Course Outline

The course is divided into two parts:

#### Non-Examined Assessment (NEA) Coursework (50%)

This is intended to be a substantial design and make project documented by a digital design portfolio which contains photographic evidence of the final prototype. Students complete several practice projects during the first half of the Lower Sixth year to give them insight into the layout and expected content, and to develop their skills and software use.

**Theory** (50%), examined in two papers at the end of the course.

Topics covered include:

- Performance and processing of papers and boards, polymers, woods, metals and composites.
- Industrial practice
- Product design considerations
- Product design
- Design methods
- Design processes
- Responsible design

Maths accounts for approximately 15% of the theory papers (7.5% overall) and GCSE skills such as calculating volumes, areas and percentages are required. The use of maths and science to support decisions made in the processes of designing and making are important in DT and common to all A-level specifications.

### **Higher Education and Careers**

DT is useful for a wide range of degrees and areas of employment, including engineering, architecture, product and industrial design, and fashion. Former students have reported that the practical application of knowledge and extensive workshop experience they gained during A-level DT was invaluable to them in these degree courses, and that their use at Epsom of identical or similar software for DTP and CAD to that used at university was also excellent preparation.

The course enables students to develop a wide range of transferable skills, such as planning, communication, teamwork, problem-solving and evaluation, such that it can also be a good choice for those who do not envisage moving on to directly-related courses or careers.

### **What should I study alongside DT?**

Russell Group universities consider DT A-level as a useful 3rd A-level with Maths and Physics for most Engineering courses, and this is an increasingly popular subject combination at Epsom. The course works well with a wide range of subjects though, and could sensibly be combined with almost any other Sixth Form options.

### **Is there anything else I should consider?**

Students are sometimes hesitant about combining DT with another subject with a high proportion of non-exam assessment (NEA) but this can be managed and does not need to be a problem. It is worth considering however that much of the independent work required in DT requires specialist equipment in the workshops, and students are expected to attend at least two of the nine co-curricular sessions provided by the department each week to make sufficient progress with their practical work.