Design Technology Statement of Intent

Our aim is to develop inquisitive and scholarly global citizens who look for opportunities to positively develop the world around them. We empower students to be creative, considerate of wide issues, and capable of realising their own innovative designs.

Design Technology

Design and Technology is a multifaceted subject which calls upon a range of core skills, enabling pupils the opportunity to develop problem solving skills, logical and systematic thinking, creativity, practical awareness and manual handling skills, confidence in their abilities, etc. This subject is therefore an ideal accompaniment to many other core subjects offered in school.

Alongside these transferable skills the pupils develop a deeper understanding of design factors and manufacturing techniques. The subject has far surpassed its traditional woodworking/craft routes and now focuses heavily on the production of high quality, intelligent designs which meet the demanding needs of a specified user. The subject looks to mirror industrial techniques which are currently used within industry today and offers pupils the chance to secure a strong foundation in an area they may wish to pursue within their future career.

The following topics are covered within the GCSE curriculum:

- New and emerging technologies
- Critical evaluation of emerging technologies
- Energy generation
- Modern and smart materials
- Mechanisms
- Electronic systems
- Programmable components
- Ferrous and Non-ferrous metals
- Papers and boards
- Thermoforming and thermosetting polymers
- Textiles
- Timbers
- Justifying material and process choices
- Environmental, social and economic design considerations
- Designers and Design Companies
- Design strategies and communicating design proposals

How will I learn?

At the beginning of year 10 pupils work through a series of short focussed practical tasks. These tasks involve the use of CAD CAM, graphic drawing skills and workshop manufacturing techniques. At the end of these focussed practical tasks pupils should have

sufficient skill levels enabling them to independently take on the challenges of the Non-Examined Assessment (NEA).

The next phase of education within the course is to learn the theoretical aspects that will be tested within the end of year exam and which will also appear throughout the completion of the NEA. The information is presented in a range of interactive styles where we make the most of the computer suite to learn, record and test our abilities.

Interwoven within this phase are the skills that were initially taught in order to sharpen them to the utmost standard, e.g. once we learn about the Design Company Alessi a pupil would then design an item of kitchenware and look to emulate the style of the design company, whilst practising their graphical drawing skills. After all of the exam content has been covered pupils then begin the NEA which will take the duration of Year 11.

How will I be assessed?

Each focussed practical task is graded and pupils receive subsequent improvement strategies which look to hone in their skill set. Each topic covered in line with the exam specification is tested to allow pupils to identified areas of strength and areas that may need further refinement. Whilst completing the NEA the pupils receive group feedback and guidance as per the JQL guidelines. Extensive examples of good practice are also shared with the pupils to help inspire and guide.

The GCSE consists of 2 components, the breakdown of these are as follows:

Component 1	Component 2
• Written exam, externally assessed • 1 hour and 45 minutes • 50% of qualification • 100 marks	• Non-examined assessment, internally assessed and externally moderated • 50% of qualification • 100 marks
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. • Students must answer all questions in section A (40 marks). • Students must choose one specialism in section B – either Metals, Papers and Boards, Polymers, Systems, Textiles or Timbers (60 marks). • Students must have calculators and rulers in the examination	Three contextual challenges will be provided by the board on 1st June each year, from which students must choose one to respond to. Projects will be internally assessed and externally moderated. • Students will produce a project which consists of a portfolio and a prototype • The portfolio will contain approximately 20 to 30 sides of A3 paper (or electronic equivalent) There are four parts to the assessment: Part 1: Investigate Part 2: Design Part 3: Make Part 4: Evaluate