



DESIGN & TECHNOLOGY

"Design is not just what it looks like and feels like. Design is how it works."
Steve Jobs

Design and Technology is a unique mixture of practical and theory combining to give our students an experience unlike any other in the school. We offer modern and traditional skills that will not only help them to gain success in any future profession but will also help students with solving practical life skills and be able to become informed consumers. We are the subject for problem solvers; for dreamers; for people who like to be doing instead of sitting. At its core, Design and Technology is creativity and imagination. Students learn to design and make products that solve genuine, relevant problems within different contexts whilst considering their own and others' needs, wants, and values. To do this effectively, they will acquire a broad range of subject knowledge and draw on additional disciplines such as mathematics, science, engineering, computing, and art.

KEY STAGE 3

In Key Stage 3 all students are encouraged to increase their design and make skills and subject knowledge to a higher standard in preparation for taking the subject at KS4. Our goal is ensuring every student exceeds their own expectations; to try new techniques and technologies and to learn how products are designed and manufactured. Design is a key feature of the nation's future; modern manufacture is extremely competitive with only design and ideas being the difference between success and failure. It is the department's goal to turn out creative and exciting designers who can produce workable, eco-friendly, sustainable, and modern designs.

KEY STAGE 4

At KS4 students will follow the Edexcel Design and Technology syllabus. Assessment at the examination stage takes place through a controlled assessment task worth 50% of the overall grade and a written examination also worth 50%. All non-examinable assessment work is internally assessed and externally moderated.

Design and Technology is a practical and valuable subject at KS4. All students are encouraged to actively contribute to the creativity, culture, wealth, and well-being of themselves, their community, and their nation. In Year 10, they are taught how to take risks and so they become more resourceful, innovative, enterprising, and capable. The theoretical element of the course, students develop a critical understanding of the impact of design and technology on daily life and the wider world. Additionally, it provides excellent opportunities for students to develop and apply value judgments of an aesthetic, economic, moral, social, and technical nature both in their own designing and when evaluating the work of others.

In the Summer Term, students will have the opportunity to create their own design brief based on the contextual themes set by the examination board in June of each year; this encourages them to work independently and produce exciting and innovative products. As part of the making process, students learn traditional methods of communicating design through hand drawings and 3D prototype models. Students then progress to specialised 2D & 3D ICT design packages to cover CAD/CAM (Computer-Aided and Design/Computer-Aided Manufacture). By the end of the course,

students should have a sound knowledge of theory, a coursework folio, and practical prototypes that they can be proud of.

KEY STAGE 5

In KS5 we offer a popular course for students who wish to continue their Design and Technology studies through a focus on Product Design. This is an opportunity for students to play a part in designing the future, as product design is an essential aspect of any modern economy and can transform our daily lives.

This course allows the students to stretch their creative and practical skills to the limit. The 2-year linear Edexcel A-level course is made up of two components consisting of a written examination paper and a non-examinable assessment, which will consist of a practical portfolio of creative skills. Students will have the opportunity to work from their own briefs with a client, providing the opportunity to develop their skills to become informed and independent designers. As with the GCSE, the NEA is worth 50% of the overall grade; all NEA work is internally assessed and externally moderated.

This course is suitable for those who wish to use their creativity to produce innovative products and can lead to a foundation course in art and design or degree courses in creative areas as diverse as architecture, automotive design, industrial design, graphic design, games design, engineering, material sciences, surveying, interior design or of course product design. The list is almost endless, with well over 3 million jobs directly related to Design and Technology subjects. Students who are creative, inquisitive, enjoy problem-solving, and care about the environment, then this is the career path for them. Students who are unsure should take a look at some of the work our KS5 students have produced. In addition, the skills and techniques learned in these courses will be invaluable, regardless of whether they continue on into the industry or not.

SUPER CURRICULUM

STEM Super Curriculum (including Science, Design & Technology and Computing)

All year 9 students have the opportunity to design and build an operational carousel. Students will work in groups to design their carousel, learn some electronic theory, wire an electronics board with a motor and LEDs, program their board, and then put it all together. We hope the project will inspire students to consider a future STEM-related career.

EXTRA CURRICULUM

‘Product In a Tin’ is an inter-house competition that gives students the opportunity to create a product made using materials from at least two of the main materials categories used in Design & Technology eg wood, metal, plastic, textiles, and paper/board. It must be of high quality with well-executed techniques and a finished piece of work that looks attractive. The product can be made using hand or machine techniques. It should look good from all angles, as well as being fit for the purpose and user it was designed for. Entrants are encouraged to think about the product they design and how they can make it different from other entries. How can it solve a real design problem? Can the focus be on a design problem not close to the student’s own experience eg linked to the United Nations 17 Global Goals for Sustainable Development? The product has to fit into a tubular tin that is the same size as a snack-sized Pringles 40g tin, however, tin is not part of the competition entry.

Trips

Where possible, we try to provide opportunities for students to visit industrial settings to support the exam curriculum. Visits include Jaguar Land Rover, New Designers Show in London, and Morgan Motor Company.