

Design and Technology Department

The Design & Technology Department encompasses all the key technology disciplines including Resistant Materials, Electronics, Graphics, Computer Aided Design & Manufacture and Engineering. We are a faculty that also includes Textiles technology and Food & Nutrition. As of November 2018 we will all, along with Art & Design be housed in the new multi-million purpose built block, to be known as the East Wing. The academy is very supportive of these subjects and recognises the importance of the pupils developing these skills in line with what employers are looking for in the world of work.

Design & Technology and Engineering, which includes two well-resourced workshops. We have a team of two D&T specialist teachers and a dedicated Technician. The workshops are fully equipped and are well maintained for all practical activities from KS3 through to 'A' level; as well as our own CAD/CAM suite complete with new computers and interactive whiteboard. We have a range of CAD packages including Techsoft 2D Design as well as a laser cutter, vinyl cutter and 3D printer.

The department has a pleasant working environment with a supportive team spirit, we work in collaboration with the Food and Textiles areas, allowing us all the opportunity to share knowledge, experience and resources. Having achieved 'Science and Engineering' status we are dedicated to delivering GCSE Engineering in addition to offering the new specification for GCSE and A Level Design & Technology.

In KS3 the students begin to cover a wide variety of elements included in the Design & Technology course to ensure they have sufficient skills in a range of disciplines and areas, with a high degree of independent learning.

We work on a carousel system which comprises of two hours per fortnight covering a different project per term - Graphics/Drawing skills, Resistant Materials (including workshop Health & Safety) and Engineering/Electronics, this is in addition to one hour a fortnight each of Textiles and Food & Nutrition. This gives them the opportunity to experience all aspects of the subject and make the correct choices for themselves when it comes to selecting their GCSE options. The students are enthusiastic, well-motivated and enjoy the challenge of innovative design and practical work.

*Year 7 enjoy a course that gives them the opportunity to gain good foundation skills in resistant materials, graphics and basic electronics. Year 8 build on these to further develop further their skills in mechanisms and structures, CAD/CAM and small scale production in the form of casting.

At KS4 students can opt for either GCSE Engineering or GCSE Design & Technology: Papers & Boards (Graphics). During year 9 students will begin to specialise in their chosen material areas more closely whilst ensuring the necessary CORE elements are also covered in detail. They will practice a wide range of practical skills as well as learning what they need to include and how to produce and present their 'coursework' (NEA).

The Engineering course comprises of two units of work, 'designing and making a product' and a final theory examination. Pupils have an opportunity to take part in many extra-curricular projects and have been successful in a number of STEM competitions throughout the course in the form of STEM clubs held during lunchtimes. These include 'The Big Bang' and at 'Chelmsford Science and Engineering Society's' annual regional competition. A number of our students have also been successful in gaining Arkwright Scholarships which have aided them on their journey into STEM based careers.

The first two terms of 'Graphics' provide an opportunity to cover a wide variety of communication skills which include drawing techniques, both freehand and formal, graphics software, use of CAD systems and a variety of workshop processes. All these designing activities culminate in the realisation of a variety of graphic products, such as pop-up-books, 3D points of sale and packaging.

The quality of work and student commitment is very high resulting which has resulted in several successive years of excellent exam results. We regularly compete and have been successful in STEM competitions at regional and UK level.

The current syllabus at A-level is Edexcel Design and Technology: Product Design. The main areas of study are: 'Principles of Design and Technology' and a Design and Make Project'. This is offered as a two year linear course and includes a visit to the 'New Designers' exhibition in London.

This course encourages the students to take responsibility for planning and managing their own work as there is a strong coursework component in this subject requiring independent learning and the ability to communicate with others to enhance research techniques.

We consider ourselves to be successful, opportunistic and highly receptive to new ideas, inspirations and approaches to better ways of working with the overall aim of helping and advising students towards greater achievement in their design and technology education.