Design & Technology

KS3 Curriculum

What does this course involve at Key Stage 3?

Design and Technology is about all that surrounds us. It is a subject which encourages you to design and make products with creativity and originality using a range of materials such as paper/card, plastics, textiles, ceramics, food, electronics, timber-based materials and ferrous and non-ferrous metals. Students will develop a variety of techniques for working with these materials. The course has a practical approach that encourages students to design and make products with creativity and originality in a variety of practical activities. The study of packaging, branding and marketing tools are included in the course as part of the process of understanding commercially viable products.

We aim in Design and Technology to develop students' independence and opportunities for learning through their engagement, thinking, reflectiveness and Interdependence.

What do you need to be successful in this course?

To be successful in this course students' will be shown how to undertake different drawing and modelling techniques to design products. Channelling and developing their own creativity and problem-solving skills will result in finished pieces of practical work being completed. Student will be responsible for ensuring they follow the safety procedures correctly whilst they are in the workshops.

Year 7	Students will be completing a maze game project to introduce them into the practical element of Design and Technology and introduce the students into a variety of tools and materials that will be using throughout their time in Design and Technology. They will also have their creativity stretched and challenged in their second project where they will be given a material to create a storage project of their own making.
Year 8	Students will complete a mechanical toy project working mostly in a variety of wood to developing their practical skills from year 7. They will also explore electronics and Computer Aided Design (CAD) to develop a night light project.
Year 9	Students will be developing the skills they have learnt in year 7 and 8 to complete projects working in an iterative way to ensure that they find solutions to real world problems. They will also learn about social and economic issues related to design challenges.

Key Stage 4 Curriculum

Years 10 & 11

Students have an option of two subjects at KS4 to take:

Option 1

Qualification name: AQA GCSE Design & Technology: Product Design

This is a design qualification, teaching students how to design products to solve issues relating to real world problems. It will teach the students to design in an iterative way building on what they have learnt at KS3.

Students will research, design, develop, make and evaluate a range of projects during the 2-year course and will specialise in woods, metals and polymers when designing.

Year 10

Students will learn how to design in an iterative way and learning about the design process from initial concepts of a product through to the manufacture. They will learn about the different types of woods, metals and polymers in a practical way by developing prototypes of their designs using these materials.

Year 11

Students will complete their controlled assessment responding to a design context to create a working prototype that solves a real-world problem.

Students will also sit a written exam on the theory of design answering questions about different aspects of design using the knowledge that they will have learnt in both KS3 and KS4.

Option 2

Qualification name: WJEC Level 1/2 Vocational Award in Constructing the Built Environment

The course offers a learning experience that is focused through applied learning, i.e. acquiring and applying knowledge, skills and understanding through purposeful tasks set in sector or subject contexts that have many of the characteristics of real work.

The applied purpose will also enable learners to learn in such a way that they develop:

- skills required for independent learning and development
- a range of generic and transferable skills
- the ability to solve problems
- the skills of project-based research, development and presentation
- the fundamental ability to work alongside other professionals, in a professional environment
- the ability to apply learning in vocational contexts

Year 10

Students will be introduced to various skills relating to the different construction industries:
Carpentry – looking at various wood joining methods then developing these to build window frames and a table.
Painting and Decorating – Students will be developing correct painting techniques for the projects they will be building and shown how to wallpaper a section of a wall.
Tiling – Students may also have to opportunity to develop tiling skills during the course of the year.

Year 11

Students will be focusing on their controlled assessment where they will be assessed on the practical skills developed in year 10 creating a project connected to the brief set by the exam board to show the three skills they have learnt.
Students will focus on the theoretical side of construction looking as health and safety in a construction environment and the planning process that goes into constructing a building. They will spend the year looking at case studies as a practical approach to learning the knowledge needed for working in construction.