

## English Martyrs' Catholic School

### Design and Technology Curriculum Statement

#### Our Vision

The Design and Technology department is committed to delivering a curriculum accessible to all, which provides the broadest possible range of opportunities for students; one which will allow students to be self-motivated and confident learners, who can work independently and as part of a team. We aim to ensure that learners develop technical and practical competencies as well as the wider skills valued by employers. Our main priority is for students to be problem solvers who are not afraid of making mistakes. At the heart of the curriculum is the desire to deliver a broad variety of lessons which prepare our students to be successful in the subject and their wider lives. We aim to achieve this through inspired teaching, thinking and learning that embraces new technologies whilst also maintaining the traditional skill set.

#### Our Purpose

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, students design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and wellbeing of the nation.

#### Curriculum Intent

The Design & Technology curriculum aims to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and successfully. For students to be able to build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. To allow students to understand and apply the principles of nutrition and learn how to cook using complex skills and techniques. For all students to be able to critique, test and evaluate test their ideas and products and the work of others.

The KS3 curriculum is designed so that whether students choose to study a Design and Technology subject for GCSE or not, they can take away invaluable life skills having started to become expert practitioners in the basic skills required.

#### Key Strands

Under the umbrella of Design & Technology, students study Textiles, Product Design and Food & Nutrition as part of a carousel system. There are key strands within these subject areas that we aim to teach our students about; Design, Make, Evaluate, Technical Knowledge and Cooking & Nutrition.

#### Textiles

Whilst learning Textiles students gain an understanding into the fundamental skills of the subject. Students learn how to select and use important machinery and equipment such as sewing machines with competence and confidence. They learn how textile products are designed and constructed and can apply this knowledge to real life situations. They learn countless skills that they can take forward to use not only across other school subjects, but will also gain practical skills that will serve them for life. This may include machine sewing and hand sewing, ironing, scissor skills, creative and technical drawing skills and measuring skills.

As students who have opted for Textiles progress to year 9, there is a greater emphasis on the innovative, creative nature of the subject. Students gain an understanding of a range of surface decoration techniques, building a comprehensive 'bank' of knowledge that they can later draw on. Projects throughout this year are designed to perfect students' sewing machine skills, leading them to become highly skilled practitioners. Increasing use of photography and drawing within the projects enables students to practice working in a similar manner to that expected when producing their final GCSE portfolio of work. As student transition from year 9 to year 10 and then on to year 11, they are increasingly able to investigate and explore ideas, critique and refine their work and respond in a meaningful and personal way to the themes and briefs set for them. More importantly, they can do so competently and independently.

## **Product Design**

Students will actively take part in practical and theory work. The lessons will give them a good understanding of different materials and how these are constructed, using processes, into a range of products. They will learn about health and safety, using tools and machinery to keep themselves and others, safe.

Areas of study include CAD /CAM, environmental awareness in design, working with a variety of resistant materials, systems and control, Graphic products, mechanical systems, smart materials, set and prop design compliant material modelling.

The learners will appreciate the importance of the 'user' and analyse the needs of the 'target market' within a range of contexts. They will identify factors that motivate users such as financial environmental and cultural. When they are making their products, they need to address factors such as ergonomics, anthropometrics and functionality. Students will know about how different materials and components can assist the functionality of their products. As well as realising that, the success of their products may depend on their accuracy and precision when using materials, components and tools. We encourage students to work within a range of relevant contexts from domestic to professional and to realise designs with genuine purpose and for a real user.

## **Food**

The Food, Hospitality and Catering curriculum aims for students to develop essential cooking skills and apply the principles of nutrition and healthy eating to their everyday choices. They learn a crucial life skill that enables them to feed themselves and others affordably and well. This curriculum has been designed to develop the students' knowledge and understanding related to a range of hospitality and catering providers; how they operate and what they have to take into account to be successful in whatever field they choose.

Students will engage in practical cooking lessons which aim to give them the basic skills and understanding of different cooking methods and ingredients. They learn about healthy eating and the nutritional value of foods, they will understand how to read food labels and identify food allergens to keep them and others safe. They will have an understanding of the importance of a balanced diet and the Eatwell Guide.

The aim is that students will leave us having acquired the skills and knowledge to prepare and cook a range of healthy and nutritious meals to help them to lead a healthy lifestyle.