

# Design and Technology



## Key Stage 3 (years 7-8)

Our Design and Technology curriculum gives students a broad introduction to the various disciplines covered in any comprehensive Design and Technology course. Students who choose to take any of the D&T suite of subjects beyond Key Stage 3 will have a good grounding on which to build their skills and knowledge at Key Stage 4. Students who do not continue with a D&T subject beyond Key Stage 3 will have acquired personal skills and practical knowledge for life that will serve them beyond their school years and into adulthood.

Throughout Key Stage 3, students will be taught to identify and solve their own problems using a variety of strategies, tools and equipment, all of which are relevant to 21st Century technologies and approaches. When investigating design ideas students will learn a range of literacy and planning skills, whilst in the designing and making stages numeracy and the acquisition of practical skills will form a large proportion of the work. Through analysing the work of past and present designers and influences from other cultures, and considering the wider effects of designing and making products, students will acquire an understanding and appreciation of the importance of design within society.

The Key Stage 3 Design and Technology curriculum incorporates investigation, designing, making, and evaluating. Above all, it enables students to develop their independence and new skills in a fun but well-structured way. At Gordano School we firmly believe the place and position of D&T in the curriculum is vital in developing fully rounded and educated individuals; students who are equipped with the skills and grounding required for the journey ahead.

We deliver projects in Product Design, CAD/CAM, Graphic Design, Textiles and Food. Through which students will make products and recipes that are relevant to them and the modern world. Our aim is that students will make products and dishes that they will take home and actually use. In this way, we believe that our students are more engaged and motivated to create brilliant outcomes. The table below shows a typical student experience across KS3, although the order this happens will vary.

YEAR 7	Lessons per cycle	Project 1	Project 2	Project 3	Project 4	Project 5
Design and Technology	5	Graphic Design - 'Core' Communication Skills	Product Design - Workshop Project (Passive Speaker)	Product Design - CAD/CAM Project (Laser Cut Clocks)	Textiles - Stitch a Selfie	Food - Introduction to Food Preparation and Nutrition

YEAR 8	Lessons per cycle	Project 1	Project 2	Project 3	Project 4
Design and Technology	5	Product Design - Lighting Project	Graphic Design - Chocolate Bar Packaging	Textiles - Pop Art Cushion	Food - The Global Kitchen

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## Key Stage 4 (years 9-11)

There are four pathways within DT that students can take at KS4 - these are outlined below:

**GCSE Design and Technology:** In GCSE D&T students will undertake several design and make projects that will build their skills and understanding in range of materials. This will include casting in metal, making products by hand out of wood and 3D printing. At the end of Year 10 and throughout Year 11 students will get an opportunity to use all of the skills acquired from Year 7-10 to independently design and make a product of their choosing. This will rely on excellent investigation, design, making and evaluation skills, that have been the cornerstone of their studies in DT at Gordano School. Students will also prepare for an exam at the end of Year 11. Through the projects and theory lessons we cover in KS4, students will learn about materials and manufacture in the modern world, smart materials and electronic systems, mechanical components and the environmental impact of design.

**Level 1/2 Vocational Award - Construction and the Built Environment:** This qualification has been designed to support learners in schools who want to learn about this vocational sector and the potential it can offer them for their careers or further study. Unit 1 introduces learners to the built environment and provides them with the opportunity to develop skills, knowledge and understanding in identifying, explaining and evaluating different ideas and concepts of the built environment. Learners will explore a range of profession and trade roles, and some of the different structures and buildings of the built environment. Unit 2 offers learners the opportunity to develop skills, knowledge and understanding of the design of the built environment, including exploring what is needed to interpret and produce drafts, drawings, and models of design plans.

**GCSE Art and Design (Textile Design):** This course will allow you to be innovative in developing new techniques. You will have the opportunity to work with a variety of materials by designing footwear, accessories, clothing and much more such as exploring ways to decorate and create new concepts and products. Pupils will be taught how to design and make products using a range of modelling, materials and textile skills. This is a very hands on, creative course and through a series of specialised workshops and in-depth artist & designer studies, students will learn a vast range of new decorative and construction techniques. Projects include: DIY Denim, Footwear, Youth Culture Hoodie as well as a longer NEA project and practical exam where students will have a greater degree of flexibility to create products of their choosing.

**GCSE Food Preparation and Nutrition:** In GCSE Food you will undertake regular practical lessons and learn about the following topics: Food Commodities - Discover where and how food is grown and produced and explore the many different ways these foods can be cooked; Nutrition - Learn all about the key nutrients we need to be healthy, including fat, proteins, carbohydrates, vitamins and minerals and where we find them; Diet & Good Health - Find out how much of each nutrient different groups of people need each day and plan menus and diets to provide for these needs; The Science of Food - Learn about what happens to ingredients when food is prepared and cooked and how that affects the taste and nutritional properties. You will also discover how some foods are made by microbes and look at food safety; Cooking & Food Preparation - You will consider a whole range of reasons why people choose to eat different foods. There is a large emphasis on practical skills, and you will learn to make a wide selection of different sweet and savoury dishes using a whole host of different ingredients, methods and equipment.

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## Key Stage 5 (years 12-13)

There are three pathways within DT that students can take at KS5 - these are outlined below:

**A Level Design and Technology (Product Design):** This creative and thought-provoking course gives students the practical skills, theoretical knowledge and confidence to succeed in a number of careers; especially those in the creative industries. Students investigate historical, social, cultural, environmental and economic influences on design and technology, whilst enjoying opportunities to put their learning into practice by producing products of their choice. Students work in a range of resistant and compliant materials and use a variety of manufacturing methods, usually of their choosing. In this course students are expected to respond to real world design problems and to produce prototype products to solve them.

The course starts with some higher level graphics and modelling skills which prepares students for the NEA. Lessons are then a combination of learning the theory whilst undertaking the NEA at the same time. Students get to identify and write their own briefs and then follow the iterative design process, recording the design journey in their sketchbooks. The whole design process is one of independence and investigation. Students are taught a wide variety of construction and finishing techniques through practical tasks and whole class demonstrations. The single exam at the end of the course requires students to demonstrate their knowledge and understanding of a wide variety of materials, construction methods and design influences. Design and its importance in society is at the heart of the course and students who have a genuine interest in design and making will find this a stimulating, thought provoking and thoroughly rewarding course.

**A Level Fashion and Textile Design:** This refreshing new course encourages candidates to fulfil their creative ability. Students will have the opportunity to work with a wide range of fabrics and components used to design and create fashion and textiles products. They will be encouraged to develop their creativity through presentation techniques in 2D and 3D forms. This course is largely practical and sketchbook work with limited theory. There are 2 main components of study.

In Component 1 Candidates will undertake a major in-depth critical, practical and theoretical project, based on a theme that has personal significance. This will consist of a sketchbook including research, designer studies and design & make activities. In Component 2 there will be a preparatory study period of sketchbook work with an externally set assignment and stimuli. Students select one and create a personal response piece. Also there is a 15 hour period of sustained focus work (practical exam) Students to show planning, outcomes and complete under supervised conditions. Candidates will be required to present their work.