

Technology Curriculum Overview

Why is Technology important?

Technology is a subject that brings almost every other subject together and allows students to transfer and apply their knowledge and skills in both practical and theoretical contexts. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

We give students the opportunity to learn and develop 8 out of the top 10 STEMNET employability skills:

Communication and interpersonal skills; problem solving skills; using your initiative and being self-motivated; organisational skills; team working; ability to learn and adapt; numeracy; valuing diversity and difference

As well as preparing students for the world of work in a general and overarching sense, we also prepare students for the world of work in the field of technology which is made up of Resistant Materials, Textiles, Food, Graphics and Electronics/Programming.

Summary of the Department

Curriculum lead: Graeme Jackson

Teacher of textiles: Corinne Carrick

Teacher of graphics: Jennifer Kirkwood

Teacher of food: Holly Smith

Teacher of food: Teresa Clarke

Teacher of technology: Graeme Jackson

DT Technician: Paul Carrick

Food Technician: Lynn Philipson

What equipment do we have?

We have two technology classrooms equipped with a wide range of metal and wood work equipment. We also have subject specific rooms which are fully equipped for textiles, food and graphics.

Specific equipment we have:

2 x laser cutters, 7 x 3D printers, a suite of computers and laptops for creating CAD designs and completing classwork/coursework.

Brazing hearth, TIG and MIG welders, metal casting, pillar drills, scroll saws, band facers and plastic forming machines. We also have wood/metal working benches/vices and cupboards that are stocked with tools for marking out and manufacturing in the classroom.

We have a fully equipped kitchen for teaching food including an industrial dish washer. We also have dedicated textiles and graphics classrooms which have high quality sewing machines and CNC signage cutters.

Key Stage 3

Year 7 and 8 are the foundation years where students begin their learning journey for designing and making skills as well as the theory that underpins them. Our primary focus is to ensure full national curriculum coverage but this is not the only end goal. In addition to composites we are required to teach, we also enable students to be interested in the technological world that surrounds them. In these early years, we want students to have a growing understanding of how products are designed, how they are made and to be able to experience a wide range of these processes in the classroom. Students are taught the importance of working safely, hygienically and they are also taught how to assess risks for themselves and others. We aim for students to be able to confidently follow manufacturing plans and recipes, be able to measure volume, distance and area and use a range of hand and machine tools safely and accurately. In year 8 we will build upon the skills developed in year 7. By the end of year 9, students should be more independent workers with a range of key technological life skills that can be further developed at KS4 or through lifelong learning.

In year 7, students are not 'set' in technology; all classes are mixed ability from KS3 through to KS5. Students will be assessed on their written and design work as well as their practical work. Due to the nature of the work completed in technology, a large proportion of the feedback will be verbal; there would be no point giving written feedback on how to handle equipment at the start of the next lesson as by then it would be too late. Having said that, there will still be summative written feedback at the same frequency as other subjects, so our verbal feedback goes over and above the expected feedback a student would normally receive.

Key Stage 4

AQA GCSE Design and Technology

This course will prepare students to participate confidently and successfully in an increasingly technological world. Students will gain awareness and learn from wider influences on Design and Technology including historical, social, cultural, environmental and economic factors. Students will get the opportunity to work creatively when designing and making and apply technical and practical expertise. The course allows students to study core technical and designing and making principles, including a broad range of design processes, materials techniques and equipment. They will also have the opportunity to study specialist technical principles in greater depth.

The course is made up of 50% NEA (coursework) and 50% written exam. The NEA involves a designing and manufacturing a product and creating a portfolio of evidence that documents the process. The course uses the new 9-1 grading system. Classes are mixed ability.

Eduqas Level 1/2 Hospitality and Catering

This course enables to develop 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.

There is the opportunity to learn about issues related to nutrition and food safety and how they affect successful hospitality and catering operations. In this qualification, learners will also have the opportunity to develop some food preparation and cooking skills as well as transferable skills of problem solving, organisation and time management, planning and communication. Through the two units, learners will gain an overview of the hospitality and catering industry and the type of job roles that may be available to assist them in making choices about progression. Successful completion of this qualification could support entry to qualifications that develop specific skills for work in hospitality and catering.

Students are assessed on written coursework that is completed during lesson time. Students will also be assessed on their ability to develop and create a 3-course meal, or 3 dishes to suit a given brief; the outcome of this will form part of their final grade. They will also complete a written exam that is externally set and moderated. Classes are mixed ability.

Key Stage 5

AQA A-Level Product Design

This creative and thought-provoking qualification gives students the practical skills, theoretical knowledge and confidence to succeed in a number of careers. Especially those in the creative industries. They will investigate historical, social, cultural, environmental and economic influences on design and technology, whilst enjoying opportunities to put their learning in to practice by producing prototypes of their choice. Students will gain a real understanding of what it means to be a designer, alongside the knowledge and skills sought by higher education and employers. We're confident you'll find this specification clear and easy to use, as a number of teachers and assessment experts have helped us to produce it.

The course is made up of 50% NEA (coursework) and 50% written exam, of which there are two. The NEA involves a designing and manufacturing a product and creating a portfolio of evidence that documents the process. The course uses A* - E grading system. There is no external assessment in year 12, this year is used to prepare students, however, there will be internal assessment during this year. Classes are mixed ability.

Outside the classroom

Every year we take part in the local Rotary Tournament where students get to take part in a

competition to solve technical problems with a range of limited resources.

We also take part in the national Lego League competition where students design, make and program robots to solve technical problems.

There are other competitions that we take part in which change yearly depending what is being organised. There are also links with other departments such as science, maths and computing where we come up with projects such as the pine car derby that links all of our subjects together.