Welcome to the Technology Department

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Teachers	Mrs J Rowe, Mrs T Watts, Mr T Holland, Mr A Kirton, Mr E Parsons Brown, Mrs S Adams,
Technicians	Mrs H Dixon, Mr C Black

Subject Overview

Technology prepares students to participate in today's and tomorrow's rapidly changing technological world. Through Technology, all students can become critical and informed users of products, and become designers and innovators. Students will learn to think and do something creative to improve the quality of life for everyone.

Technology is about students becoming self-motivated, creative, problem-solvers, and allows them to work both as individuals and as members of a team. Students will look for needs, wants and opportunities and respond to them by developing a range of design ideas and by making and evaluating products and systems. In Technology, students will combine practical skills with an understanding of aesthetics, social issues, environmental issues, function, and industrial practices. Students will consider the use and effects of present and past technology.

Key Stage 3: Years 7 and 8

In Key Stage 3 the department uses a series of four modular design and make projects that rotate on a 10-week carousel throughout the academic year. This system allows students the opportunity to experience a range of disciplines that sit within the guidelines of the National Curriculum for Technology.
The four modules that students follow in Year 7 are:

- Product Design (NEDBOTS)
- Graphics & Electronics (Night lights)
- Textiles – (fabric organizer)
- Food Preparation and Nutrition – (various food products)

The four modules that students follow in Year 8 are:

- Product Design (Desk Tidy)
- Textiles – (Cushion cover)
- CAD & Casting (Bauhaus inspired key ring)
- Food Preparation and Nutrition – (various food products)

The subject is delivered in three hours per week for Year 7 students and two hours per week for Year 8 students.

Key Stage 4: Years 9, 10 and 11

In Key Stage 4 students can choose to take **one** GCSE Technology course from the three that are on offer:

- Design and Technology (AQA)
- Food Preparation and Nutrition (OCR)
- Design and Technology - Textiles Technology (Pearson Edexcel)

Throughout Year 9 and 10 students on the Design and Technology courses will complete a series of design and make assignments that prepare them for the final NEA coursework project in Year 11 which is worth 50% of the final GCSE grade. Through Year 9, 10 and 11 students will also follow a theory course, using resources from PG Online, that will prepare them for the 2-hour exam in June of Year 11; this exam is also worth 50% of the final GCSE grade.

Key Stage 5: Years 12 and 13

At Sixth Form the Technology Department offers two courses for students to take:

- A level Design and Technology - Product Design (AQA)
- Level 3 Food Science and Nutrition (WJEC)

Teaching Aims and Objectives

Studying Technology will help students to:

- Be informed on matters of technology, which are useful in everyday life in our society and, for some students, needed for further study in Technology.

- Be conscious of the impact on their lives of the rapid change in our technological society, eg. the use of computers as a resource across the ability range, and the increased use of computer aided design and computer aided manufacture/machining.

- Have an appreciation of, and concern for, the effect of and the need to apply scientific knowledge to technical, economic, and social development.

- Use a rational approach in order to solve practical problems.

- Experiment with combining ingredients to design and make innovative and healthy recipes.

- Learn to predict consequences: that is, to relate cause and effect.

- Gain improved communication skills (comprehension, literacy, numeracy, and visual literacy).

- Exercise self-discipline, shown by students assuming personal responsibility for their actions as well as in their co-operation with others.

- Gain improved organisational skills while working both individually, and as individuals within a group.

Course Information

Key Stage 3:

Years 7 and 8: In Key Stage 3 the department follows a modular design process led approach through an in-house designed curriculum which covers Product Design, Graphics & Electronics, Food Preparation & Nutrition and Textiles. The subject is delivered in 3 hours per week for Year 7, and 2 hours per week for Year 8. The tasks that are set throughout these two years follow the design process which builds on students' experience and allows for the progression of the individual by offering tasks and outcomes that are negotiated. Students work within a design process framework that starts with an initial problem and brief, and then goes on to design, make, test and evaluate a solution to that original problem and brief. The solution will be an outcome that is realised in appropriate materials, mostly chosen by the student. Additional short focused practical tasks are set at appropriate times over the year to offer a valuable enrichment to our programme of study.

Key Stage 4:

Year 9 Students can choose to take a GCSE Technology course in either:

- Food Preparation and Nutrition
- Design and Technology (workshop materials)
- Design and Technology (textiles)

The specification is taught during this year through theoretical work, investigations, assignments, minor projects and practical work.

Year 10 The specification is taught during this year through theoretical work, investigations, assignments, minor projects and practical work.
The final GCSE NEA coursework project is started during term 6 in the summer term.

Year 11 Students continue to complete the various sections of their NEA coursework during the autumn and spring terms, with a final deadline just before the Easter break. All students then spend the early part of the summer term in revision and preparations for their final public exams.

Key Stage 5:

Year 12 The Product Design course encourages students to develop their graphical and presentation skills whilst concentrating on working with a variety of woods, metals and plastics with relevant tools, equipment and machinery to design and make products as solutions to design problems and briefs. In Year 12 Product Design students will cover the specification by undertaking practical and theoretical assignments to develop their skills, knowledge and understanding.

In Year 12 Food Science and Nutrition students cover a wide range of elements related to industrial food products and practices. This involves the use of food in a range of commercial applications and covers planning to meet nutritional needs, developing food production skills, ensuring food is safe, experimenting to solve food production problems and current issues in consumer food choice.

Year 13	In Year 13, Product Design students continue with their NEA coursework project which consists of a folder and product solution. Once the project is completed, they will then prepare for the written exams taken at the normal exam times. In Year 13, Food Science and Nutrition students cover a wide range of elements related to industrial food products and practices. The course involves the use of food in a range of commercial applications.

Homework Expectations (Including ICT resources and websites)

Students in Years 7 and 8 are set homework once a week. Students will be expected to complete the design process classwork and extend their knowledge and understanding through specific homework as part of each course they are studying.

GCSE students are set homework once a week to meet the demands of the course. The homework will include completing design-based tasks, past paper exam questions and tasks related to the individual specification being taught. There may be occasions when more weekly homework is necessary.

A Level/level 3 students are expected to spend 5 hours in self-study to compliment the 5 hours of specific taught time. Students will be expected to complete homework for both their theory lessons and NEA coursework. During the NEA coursework project phase students are expected to allocate additional time at school and at home to complete outstanding coursework.

Additional homework resources can be found at:

http://www.howstuffworks.com/

http://www.technologystudent.com/

http://www.bbc.co.uk/schools/gcsebitesize/design/

http://www.design-technology.info/revisionguides/

Extra-Curricular Opportunities

Regular after-school activities for all technology students take place, these include Technology clubs for KS4 students to extend and complete their NEA coursework and classwork. These provide an opportunity for students to extend and complete their classwork or coursework. After school workshops will run on a Tuesday and Thursday afternoon from 3:00pm until 4:30pm; please check the extra-curricular workshop timetable on the school website for updated information.

Marking and Assessment

Key Stage 3

Dialogic teacher/student marking/feedback/discussion forms the central assessment structure of our marking and assessment which also includes formative and summative assessment. This will inform the progress being made by each student and the areas where improvements are required. We will assess students in every way possible – verbally and written (end of product evaluation), formally and informally - and at every possible occasion to ensure progression over time and considering age-related expectations across the subject. The assessment of Technology work follows school policy on the assessment, recording and reporting of students work; we formally assess against “age-related expectations” – what we expect students at this stage to know, understand or be able to do.

At the end of each year in Key Stage 3 students sit an end of year exam which will test generic design knowledge and more subject specific knowledge.

Key Stage 4

At Key Stage 4 a grade from 1 to 9 is used to assess each piece of work often with a qualifying comment included. During each lesson students will gain verbal assessments or feed-back relating to the specific tasks they are engaged with. This will allow a student to understand how they can continue to improve and make progress.

Key Stage 5

At Key Stage 5 a grade from E to A* is used to assess each piece of work often with a qualifying comment included. During each lesson students will gain verbal assessments or feed-back relating to the specific tasks they are engaged with. This will allow a student to understand how they can continue to improve and make progress.

Examinations

GCSE

AQA Design and Technology

OCR Food Preparation and Nutrition

Pearson Edexcel Design and Technology - https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-9-1-from-2017.html

Students take one examination and produce one Controlled Assessment (NEA) over the three-year period (two are required for Food Prep and Nutrition).

Paper 1 - (2 hrs or 1 ½ hrs) applied theory and practice. Worth 50% of the GCSE

Paper 2 - Controlled Assessment/Non Examined Assessment: one controlled assessment (two for Food Preparation and Nutrition) worth, in total, 50% of the final grade.

Students should refer to each specification in detail to understand the content and examinations for each subject.

A Level

AQA Product Design

WJEC Food Science and Nutrition

Students should refer to each specification in detail to understand the content and examination structure for each subject.