Technology Department: KS4 LTP

Vision

The Design and Technology Department is committed to delivering a curriculum that offers the broadest possible range of opportunities for our students. We are passionate about developing and encouraging creativity, teamwork, determination and resilience in all our students. We encourage students to explore attitudes towards the made world and how we live and work within it; to develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.
We want our students to be problem solvers who are not afraid of making mistakes. Students learn by 'doing' and should be able to take risks, experiment and have multiple opportunities to design and make innovative products that solve real and relevant problems, within a variety of contexts, considering their own and others' needs, wants and values.

Teaching and Learning

We are passionate about the use of new technologies such as 3D printers, Laser cutters and Programmable devices. The aim is to fully equip our students with knowledge and skills for a possible future career in designing, technology, engineering, and be able to engage with technology in any context they may find themselves.
The department is made up of dedicated specialist design and technology teachers with expertise in Electronics, Textiles Technology, Product Design, Graphic Products, Food and Nutrition.

Recommended Internet Sites to help students achieve:

How stuff works

Design and Technology. On the web

Mr D & T

BBC GCSE Revision

Designers guide to manufacturing

University of Cambridge D&T resources

Design and Tech. online

Technology Student

Design and Technology Association

V&A Museum

Sustainability navigator

Reading
ClearRevise AQA Design and Technology
Collins AQA Design and Technology
CPG GCSE Design and Technology, Complete Revision and Practice

Assessment will be made up of exam (50%) and a non-exam assessment (50%)

The exam will assess understanding of:

- Core technical principles
- Specialist technical principles
- Designing and making principles

The non-exam assessment will assess the practical application of:

- Core technical principles
- Specialist technical principles
- Designing and making principles

Design and Technology Programme of Study

Year 10	Autumn	Spring	Summer 1	
Theory (1 lesson a week)	**Section A - Core Principles** ● Impact of new and emerging technologies ● Energy generation and storage ● Materials - modern, smart, composite and technical textiles	**Section A - Core Principles** ● Developments in new materials ● Systems approach to designing ● Mechanical devices ● Material categories and properties	**Section B - Specialist technical principles** ● Selection of materials or components ● Forces and stresses ● Ecological and social footprint	
Assessment	End of Topic Test, Online Quizzes, Exam question practice, Extended writing			
NEA 1 (2 lessons a week)	● Identifying and investigating design possibilities ● Producing a design brief and specification ● Generating design ideas ● Developing design ideas ● Realising design ideas ● Analysing & evaluating		**Focused practical tasks to ensure preparation for the NEA.**	NEA Contextual challenges by AQA on 1 June in the year prior to the submission of the NEA ● Identifying and investigating design possibilities ● Producing a design brief and specification
Assessment	formative and summative assessment of the NEA			

Year 11	Autumn	Spring 1	Spring 2	Summer 1
Theory (1 lesson a week)	**Section B - Specialist technical principles** ● Sources and origins ● Using and working with materials ● Stock forms, types and sizes ● Scales of production ● Specialist techniques and processes ● Surface treatments and finishes.	**Section C - Core Principles** ● investigation, primary and secondary data ● environmental, social and economic challenge ● the work of others ● design strategies ● communication of design ideas ● prototype development ● selection of materials and components ● tolerances ● material management ● specialist tools and equipment ● specialist techniques and processes		**Exam revision**
Assessment	End of Topic Test, Online Quizzes, Exam question practice, Extended writing			
NEA 1 (2 lessons a week)	● Identifying and investigating design possibilities ● Producing a design brief and specification ● Generating design ideas ● Developing design ideas ● Realising design ideas ● Analysing & evaluating Students work independently though NEA following a set timetable		**Review and recap of Section A and Section B**	

| Assessment | Whole class feedback inline with exam guidance and summative assessment by teachers and moderated by AQA |