GCE DESIGN AND TECHNOLOGY

Why choose GCE Design and Technology?

The specification content and assessment requirements are designed to ensure learners develop an appropriate breadth and depth of knowledge and understanding at an advanced level in design and technology.

It offers a unique opportunity in the curriculum to identify and solve real problems by designing and making products or systems. It is an inspiring, rigorous and practical subject. The specification encourages you to use creativity and imagination when applying iterative design processes to develop and modify designs, and to design and make prototypes that solve real world problems, considering their own and others' needs, wants, aspirations and values.

The specification enables learners to identify market needs and opportunities for new products, initiate and develop design solutions, and make and test prototypes. Learners should acquire subject knowledge in design and technology, including how a product can be developed through the stages of prototyping, realisation and commercial manufacture.

Learners should take every opportunity to integrate and apply their understanding and knowledge from other subject areas studied during key stage 4 and those subjects they are studying alongside GCE design and technology.

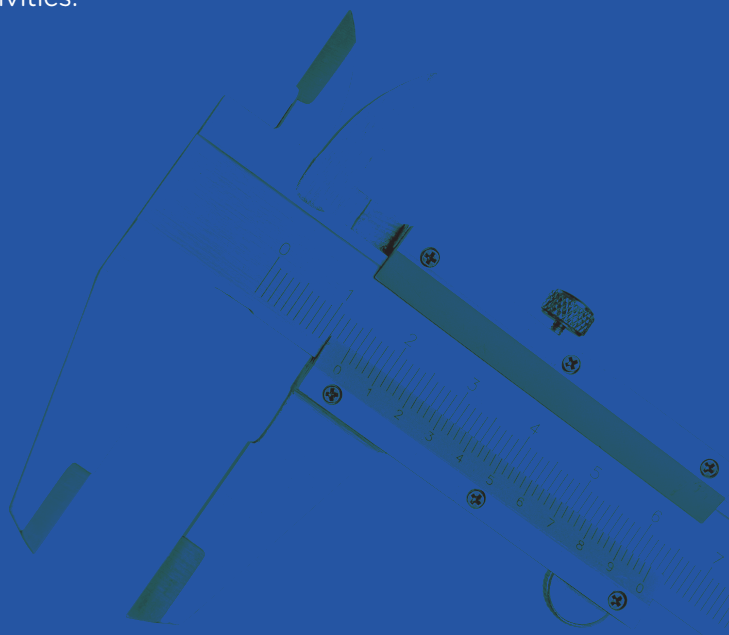
'Design and Technology should be the subject where mathematical brainboxes and science whiz kids turn their bright ideas into useful products'.

'Failures teach you everything. Making mistakes is the most important thing you can do. Anyone developing new products and new technology needs one characteristic above all else: hope'.

JAMES DYSON, BRITISH INVENTOR, INDUSTRIAL DESIGNER, LANDOWNER AND ENTREPRENEUR WHO FOUNDED DYSON LTD.

What will I study?

Learners develop an appropriate breadth and depth of knowledge and understanding at an advanced level in design and technology. Learners are required to study all of the content specified in relation to one endorsed route, either Engineering Design, Fashion and Textiles or Product Design. This will ensure that they are able to make effective choices in relation to which materials, components and systems to utilise within design and make activities.



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How will I be assessed?

The structure of the content within three endorsed routes of engineering design, fashion and textiles and product design share the same structure at AS and A2 respectively (though with material-specific amplification where appropriate). The specification is divided into a total of 4 assessment units, 2 AS units and 2 A2 units. Weightings noted below are expressed in terms of the full GCE qualification.

AS		
The subject content for AS Design and Technology will be assessed in the written examination and non-exam assessment (NEA). Learners take a single examination in one of the following endorsed routes:		• Engineering Design; • Fashion and Textiles; • Product Design.
AS Unit 1: Written paper 1	Written examination: 2 hours, 80 marks 20% of qualification	The examination includes a mix of structured and extended writing questions assessing learners' knowledge and understanding of: • technical principles; • designing and making principles. Along with their ability to: • analyse and evaluate design decisions and wider issues in design and technology.
AS Unit 2: Design and make task	Non-exam assessment: approximately 40 hours, 80 marks 20% of qualification	A design and make task, based on a brief developed by the candidate, assessing the candidate's ability to: • identify, investigate and outline design possibilities; • design and make prototypes; • analyse and evaluate design decisions and wider issues in design and technology. The design and make task will be based within the same endorsed area as the written examination.
A2		
The subject content for A2 Design and Technology will be assessed in the written examination and non-exam assessment (NEA). Learners take a single examination in one of the following endorsed routes:		• Engineering Design; • Fashion and Textiles; • Product Design.
A2 Unit 3: Written paper 2	Written examination: 2 hours, 30 minutes 100 marks 30% of qualification	The examination includes a mix of structured and extended writing questions assessing learners' knowledge and understanding of: • technical principles; • designing and making principles. Along with their ability to: • analyse and evaluate design decisions and wider issues in design and technology.
A2 Unit 4: Design and make project	Non-exam assessment: approximately 60 hours, 100 marks 30% of qualification	A sustained design and make project, based on a brief developed by the candidate, assessing the candidate's ability to: • identify, investigate and outline design possibilities; • design and make prototypes; • analyse and evaluate design decisions and wider issues in design and technology. The design and make project will be based within the same endorsed area as the written examination.

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What skills will I develop?

This specification enables learners to work creatively when designing and making and apply technical and practical expertise, in order to:

- be open to taking design risks, showing innovation and enterprise whilst considering their role as responsible designers and citizens
- develop intellectual curiosity about the design and manufacture of products and systems, and their impact on daily life and the wider world
- work collaboratively to develop and refine their ideas, responding to feedback from users, peers and expert practitioners
- gain an insight into the creative, engineering and / or manufacturing industries
- develop the capacity to think creatively, innovatively and critically through focused research and the exploration of design opportunities arising from the needs, wants and values of users and clients
- develop knowledge and experience of real-world contexts for design and technological activity
- develop an in-depth knowledge and understanding of materials, components and processes associated with the creation of products that can be tested and evaluated in use
- be able to make informed design decisions through an in-depth understanding of the management and development of taking a design through to a prototype / product
- be able to create and analyse a design concept and use a range of skills and knowledge from other subject areas, including mathematics and science, to inform decisions in design and the application or development of technology
- be able to work safely and skilfully to produce high-quality prototypes / products
- have a critical understanding of the wider influences on design and technology, including cultural, economic, environmental, historical and social factors
- develop the ability to draw on and apply a range of skills and knowledge from other subject areas, including the use of mathematics and science for analysis and informing decisions in design

Careers with Design and Technology

There are many opportunities in the creative industries after you study Design and Technology. Here are a few to career paths to think about:

- **ART AND DESIGN** - Graphic Designer, Sculptor, Gallery Curator
- **IT AND THE INTERNET** - Games Developer, Software Programmer, Network Engineer, Web Designer
- **FAST CONSUMER GOODS** - Mechanical Engineer, Product Designer, Industrial Designer, Market Researcher
- **FASHION AND BEAUTY** - Fashion Designer, Dressmaker, Garment Technologist, Fashion Stylist
- **CONSTRUCTION** – Tradesperson, Architect, Construction Manager
- **MANUFACTURING** – Food Technologist, Manufacturing Engineer, Manufacturing Manager

Why don't you google some of these jobs? For instance, an Architect will design and create plans and technical drawings of buildings.