

Design and Technology (Product Design)

Subject Leader: Mr. S. Crewe

Exam Board: WJEC

A Level

The WJEC A level in Design and Technology offers a unique opportunity in the curriculum for learners to identify and solve real problems by designing and making products or systems.

Design and technology is an inspiring, rigorous and practical subject. This specification encourages learners 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, with a particular focus on science and mathematics, and those subjects they are studying alongside A level design and technology.

As learners need to demonstrate expertise in specialist areas, three subject endorsements are available (design engineering; fashion and textiles; and product design), linked to design disciplines that reflect possible higher education routes and industry. 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.

Method of Assessment:

Examination 50% of final grade, Design & Make task 50% of final grade.