Design & Technology (Product Design)

Exam Board: WJEC

The WJEC GCE in Product Design offers a unique opportunity in the curriculum for learners to identify and solve real problems by designing and making products or systems. It is an inspiring, rigorous and practical subject and encourages learners to use creativity and imagination when applying design processes to develop and modify designs, and to design and make prototypes that solve real world problems.

Learners will acquire subject knowledge in product design, including how a product can be developed through the stages of prototyping, realisation and commercial manufacture. As well as developing general designing and practical skills, students will be using technology in practical situations ie: laser cutting and 3D printing, through industrial links at Renishaw, Miskin.

Learners will 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. However, students do not have to have taken GCSE Product Design to study it at AS/A2.

AS/A Level Product Design:
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,
- 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
- 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 create and analyse a design concept and use a range of skills
- be able to work safely and skilfully to produce high-quality prototypes
- have a critical understanding of the wider influences on design and technology, including cultural, economic, environmental, historical and social factors

Minimum Entry Requirements
- A minimum of 6 A* to C grades at GCSE with a minimum of a **C** grade in Product Design if studied at GCSE. If Product Design was not studied, a minimum grade of BC in Science is required.

If you have any queries, please contact Mr C Bright (Subject Leader).

AS Course
AS UNIT 1 20% (2 hours - Examination Paper)
- technical principles
- designing and making principles
- analysis and evaluation of design decisions and wider issues in D&T

AS UNIT 2 20% (approximately 40 hours) - Design and Make Task
Students will submit one design and make task which will satisfy the AS assessment criteria. This component is marked by the centre and moderated by the WJEC.

The A Level Course (includes the above, plus the following A2 units)
A2 UNIT 3 30% (2½ hours - Examination Paper)
- technical principles
- designing and making principles
- analysis and evaluation of design decisions and wider issues in D&T

A2 UNIT 4 30% (approximately 60 hours) - Major Project
Candidates will undertake a single substantial project.
The project requires candidates to demonstrate the integration of designing and making skills and knowledge and understanding.
The major project will satisfy the A-level assessment criteria. This component is marked by the centre and moderated by the WJEC.