



Design Technology at Avanti Fields

CURRICULUM INTENT

We aim to develop the knowledge, understanding and skills to ensure that students become critical users of technologies, and designers and producers of designed solutions.

The Design and Technology curriculum at Avanti Fields supports students to develop creativity and imagination through designing and making products that solve real and relevant problems. Students will need to consider their own and others' needs, wants and values so that they acquire a broad range of subject knowledge and become designers that are conscious of the environment.

THE AVANTI WAY

EDUCATIONAL EXCELLENCE



Our curriculum is challenging, and students will be pushed so that they can excel. An environment is created where students can question, challenge, and reflect on their learning. Skills learnt at year 7 will be built on and developed as the student progresses students can develop a sense of mastery which emphasises depth of their knowledge.

CHARACTER FORMATION



This curriculum will encourage students to develop moral literacy through several ways. Students will be made to question and consider the environmental and societal impacts of their designs and methods throughout the years they study D&T.

Encouraging students to question the moral impacts of their decisions in class will in turn encourage students to use these skills outside of the classroom and consider the impact of their decisions with a more global perspective. Conscientious choice making, courage, gratitude, empathy, and ethical decision making are all skills and attributes which embody the Avanti way of character formation.

SPIRITUAL INSIGHT



Design and function can be influenced from the natural world which can encourage and develop a sense of awe and curiosity with the world

Making students consider environmental and societal impacts of their designs will allow students to appreciate the interconnectedness of everything living and appreciate the sacredness of everything living. This process encourages mindful creativity.

GCSE DESIGN AND TECHNOLOGY CURRICULUM IMPLEMENTATION

WHAT IS DESIGN AND TECHNOLOGY AT KS4:

In design and technology students design and make products with creativity and originality.

A GCSE in Design and Technology offers a foundation in the principles and iterative design practices of various 21st century design and manufacture industries. The qualification offers flexibility in the approaches students use to **apply knowledge** and **understanding** of these practices and principles when designing and making prototypes that solve real and relevant problems.

QUALIFICATION AND WHAT TO ACHIEVE:

Students will achieve a GCSE grade 9-1 in Design and Technology. The GCSE is made up of 2 components. In the written exam students can chose a category to focus on for the in-depth knowledge section. The internal assessment contextual challenge is set by the exam board.



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KEY UNIITS STUDIED AT GCSE:

- Design consideration
- Communication
- Material considerations
- Technical understanding
- Manufacturing processes and techniques
- Mathematical skills used in the exam (the exam paper will contain 15% maths-based questions)

ASSESSMENT

Internal assessment:

Non examined assessment

NEA (40 hours)

Start: June of year 10

Coursework 50% weighting

From June of Year 10 until the end of the spring term.

Students will work independently to complete a 40-hour iterative design challenge (non-examined assessment) from a contextual challenge set by the OCR examination board.

External assessment:

Examination 50% weighting

Design Principles exam

Exam: May / June of year11

2 hours exam paper: 100 marks total

Section A: 55 marks

Requires learners to demonstrate their 'core' D&T knowledge and some out of class learning.

Section B (45 marks)

Students will choose a product from the exam paper and try to demonstrate their understanding of materials. There will be one extended response question.

15% of the paper will assess learners' mathematical skills as applied within a design and technology context.

Theory is taught through practical activities to understand core technical principles e.g., new and emerging technologies, technical principles e.g., selection of materials or components, designing and making principles including prototype.

The non-exam assessment takes place from June of year 10 and then throughout year 11, students will undertake a substantial design and make activity from a context set by the exam board which starts by identifying and investigating design possibilities, leading to a 3-dimensional prototype and a portfolio of evidence.

SUPPORT AND GUIDANCE

Use of Google classroom to support students with homework, isolating or away from school for other reasons.

Students are encouraged to watch programmes that are related DT such as, DIY programs, The makers yard, Dragon's den and the Apprentice.

Students are encouraged to make small scale models at home and question how products around them are made and assembled.

All students have been loaned new OCR DT book, allowing students to complete homework and course work at home or during lunch time.



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EXTRA-CURRICULAR OPPORTUNITIES

Students will have the opportunity to engage in various competitions, and trips related to Design Technology throughout KS4.