The DT curriculum at Five Acres High School

In DT, we learn how to problem solve using creative solutions to solve issues in the wider world.

Intent

Why should all pupils learn this subject?

Here at Five Acres High School, we are dedicated to and passionate about the delivery of a robust and informed, world class Design & Technology curriculum steeped in academic rigour and opportunities for creativity. The creative industries play a key part in generating jobs and providing economic growth and without it our lives would be less efficient, less sociable and considerably less aesthetically pleasing. Our curriculum provides students with fundamental skills in manufacturing, design & documentation of design across a broad range of disciplines. Exposure to these skills will not only create the scaffolding for highly successful outcomes at GCSE but students will be encouraged to utilise their understanding of design principles to question 21st century life – Are there ways for existing products to be improved? Can we use new and existing materials innovatively to improve quality of life without compromising our environment? How could we repurpose an existing product to perform a different task? Stimulating these questions within the students will promote the power of problem solving and guiding the students to finding the answers to these questions will not only lead to positive and constructive personal development, but will ultimately impact the way we live our lives; this is the driving force behind our curriculum. This curriculum utilises KS3 to expose students to a broad range of materials, their manufacturing techniques and drawing and documentation, with KS4 providing the students with the opportunities to use these skills to creatively explore Design & Technology.

What is the core knowledge in this subject?

Core technical principles

- New and emerging technologies
- Energy generation and storage
- Developments in new materials
- Systems approach to designing
- Mechanical devices
- Materials and their working properties

Specialist technical principles

- Selection of materials or components
- Forces and stresses
- Ecological and social footprint
- Sources and origins
- Using and working with materials
- Stock forms, types and sizes

- Scales of production
- Specialist techniques and processes
- Surface treatments and finishes

Designing and making 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

Implementation

How is this subject taught at FAHS?

At KS3, students have two lessons a fortnight focussing on a different practical project for each year group and the theory knowledge that supports the project.

At KS4, students have five lessons a fortnight, working on a mock NEA project in Year 10 to prepare them for undertaking their coursework. Theory content is delivered through all lessons in preparation for their exam at the end of Year 11.

What are the key ways students practise in this subject?

- Problem solving
- Communication
- Knowledge of materials
- Application of practical skills
- Evaluation

Impact

What does assessment look like in this subject?

Assessment happens during every lesson in the form of LSQ's and TiN tasks. Summative assessment happens in line with the schools assessment calendar with students being assessed on both theory and practical work.