

EXTRA ENTRY REQUIREMENTS

You would normally have successfully completed a GCSE course in Design and Technology or Engineering, achieving at least a grade 5. If you do not have the relevant qualifications, come and talk to us about a possible place on the course.

WHO DO I SEE FOR MORE INFORMATION?

- Mr B. Brookes, Head of Design and Technology.
- Mr A. Millicheap, Assistant Head of Design and Technology.
- Mr G. Harris, Teacher of Design and Technology.

DESIGN AND TECHNOLOGY: PRODUCT DESIGN

WHAT WILL I STUDY AND LEARN?

The specification has been designed to encourage candidates to take a broad view of design and technology, to develop the capacity to design and make products and to appreciate the complex relations between design, materials, manufacture and marketing.

In order to achieve an A Level in Product Design you will also need to master the following key skills:

- Critical thinking and problem solving within a creative environment.
- Develop and make prototypes to solve real world problems.
- Consideration of the needs, wants and values of others.
- Ability to investigate the design and manufacture of products and systems.
- Ability to be creative in your work.
- Ability to use sketching to communicate ideas.
- Ability to use digital technologies in designing and creating products.
- Consideration of important issues that affect design in the wider world such as sustainability, globalisation and inclusive design.

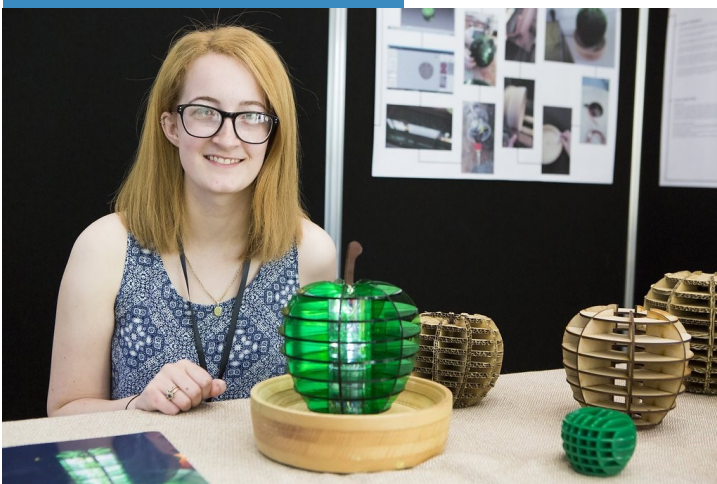
HOW IS IT TAUGHT?

- Through the Design and manufacture of products.
- Investigative project work based on self study.
- Academic study of materials, processes and design theory.

HOW WILL DESIGN AND TECHNOLOGY HELP ME?

You will gain skills that are useful in a wide range of jobs, in further study of design or engineering and in your personal life such as decision making skills, including the planning and organisation of time and resources when managing a project.

You will have access to a range of future career aspirations in the design and engineering industries, leading to future careers in product design, engineering, architecture, fashion and graphic design; it will develop your design and thinking skills that open up a world of possibility, providing the tools to create the future.



CONTAINER HOUSE PROJECT MATERIALS

Corten steel would form the majority of the exterior cladding of the building. The surface rust provides a natural, weathered appearance that changes over time. A further benefit of the weathered element is that it can often increase the strength and longevity of the material. By recycling and reusing steel, a sustainable and environmentally friendly cladding can be produced.

Designed to be stacked up to ten high, shipping containers are one of the strongest engineered structures. Using a system known as point loading, the weight carried by the containers is concentrated on the corners of the structure. The shipping containers are the main source of structural support in the house.

Bamboo is currently being researched in Singapore as a potential natural substitute to steel, for the reinforcement of concrete. Being used in the construction industry as scaffolding, bamboo is considerably lighter and stronger than steel while being sustainable due to its fast growing nature. Bamboo is not used in its raw form for reinforcement, but treated bamboo with a polymer resin to prevent water degradation. The alternating direction of grain also increases the strength of the bamboo.

The hemispheres that wrap around the containers provide a dynamic, translucent shade as well as offering protection from the elements, acting as a canopy. The rounded, hemispherical shape of the hemispheres allows for the energy efficiency of the house, also with reducing the quantity of material required. As the main reinforcement of bamboo is a joint to seal it to the main structure, steel cones, which are lightweight, as the fibre resources are being used up, reducing quarrying.

More would be utilised along the front face of the building, creating a living wall. Similar to the hemispheres, the moss provides an energy benefit by increasing thermal insulation. The moss is also attractive, adding colour and contrast to the grey of the wooden frame and hemispheres.