KS5 Product Design

What will students learn/ what skills will they develop?

Yr12

Theme: Major project – Design and make project of own choice and theory paper

- Students develop knowledge of the principles of designing.
- Students develop skills in research methods.
- Students develop understanding of quantitative and qualitative testing.
- Students develop knowledge and understanding of ergonomics and anthropometrics.
- Students develop knowledge of different computer system for designing.
- Students develop knowledge and understanding of processes involved in the design and production of a range of manufactured products.
- Students develop knowledge of form and function of different products.
- Students develop knowledge of patenting and International standards.
- Students develop knowledge of materials, components and their potential application.
- Students develop knowledge of the choice of materials for specific service requirements
- Students develop knowledge of working characteristics of materials: physical, chemical and composite
- Students develop knowledge of methods of creating materials with specific properties
- of modern material technology
- Students develop knowledge of the main features of manufacturing industry.
- Students develop knowledge stages of production.
- Students develop knowledge of management systems for production, quality assurance, organisation of equipment and people.

What will students learn/ what skills will they develop?

Yr13

Theme: Major project - Design and make task set by exam board and theory paper

- Students develop understanding of designing and making quality manufactured products, planning production with consideration of the use of time and resources, performance characteristics of different materials including 'Smart' and modern, tools and equipment, including new technologies used to make quality manufactured products, processes and techniques used to make quality manufactured product both decorative and functional, the impact that the use of graphic products has on the environment including the need to consider sustainability and health and safety issues.
- Students develop understanding of needs and demands of consumers, technology-push and market-pull, marketing strategies and how market research is conducted.
- Students develop knowledge of hand and machine methods of preparing, processing and manipulating materials
- Students develop knowledge of the use of ICT by industry in the design and manufacture of products.

Assessment

The examination board is WJEC.

60% curse work / 40% exam – AS two hour paper / A2 is two and a half hour paper

Students also evaluate their work and progress and respond to feedback.

Individual pieces of work are formatively marked following the school's assessment policy to provide constant feedback and progression.

Students are expected to correct their own work and respond to teacher comments using the school assessment proforma.

Safety

A strong emphasis is placed on Health and Safety within the Department and safe practice is reinforced in every lesson. General safety rules are always rigorously enforced for the protection of the individual students and staff. Each teaching area also has its own special requirements and safety is continually taught through talks and demonstrations as and when required. Safety goggles, dust masks and gloves are provided when appropriate and instruction is given on their proper use.

Literacy

Students develop speaking and listening skills.

Students provide oral and written evaluation of their work.

The promotion of independent research and product design allow students to develop ideas in depth. Reading enriches their subject knowledge and technical vocabulary.

Students use the correct technical language. Key terms are taught explicitly.

SMSC

Students understand responsibility towards others. Collaborative and cooperative work allows students to develop respect for the abilities of each other. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding and they learn to appreciate the value of differences and similarities.