

AQA GCSE D&T PRODUCT DESIGN Year 10

Theory Content.

These topics relate directly to the knowledge required in both the examination and to help students make informed judgement when completing their Controlled Assessment after June 1st in Yr 10.

Materials – their properties, sourcing, application and sustainability. This includes carbon Fibre Composites, metals, plastics, woods, smart materials and modern materials. A wide range of subtractive, forming and reforming making processes will be studied.

Products in Society, Marketing and Social Issues. Studies cover market push and pull, built in obsolescence, cooperatives, crowdfunding, virtual marketing, entrepreneurs market pull and technology push.

Anthropometric and ergonomic studies at college and home.

Product Analysis using ACCESS FM Evaluation System. This system allows students to evaluate existing designs, their own as they develop and to then complete end evaluations of their own and others ideas in a structured manner. The heads for analysis are: aesthetics, consumer, client, ergonomics, sustainability, safety, functions and manufacture.

Power Creation and Design Sustainability. We will focus on fossil fuels systems and those that are sustainable. This element of the course is also linked to how product eco credentials are impacted. This also includes the product lifecycle and the circular economy.

Scales of Production. The course looks at different scales of production and modern manufacturing principles such as Just In Time, Kanban, Master production Schedule, Lean Manufacture/QA and Kaizen. This element also integrates the Satsuma team Challenge between groups.

CAD/CAM. These technologies are integrated into modern design and manufacturing as students will have the opportunity to explore its benefits in a range of contexts in commercial practice and in the completion of their own work.

Influential designers. During the year students study and apply the ideas of Harry Beck, Sir Jonathan Ive, Marcel Breur and Dieter Rams. They also look at Modernism and Post-Modernist design.

ACCESS FM Design Analysis Tool. Students will be given opportunities to evaluate and test a range of products through use and discussion. These analyses draw together many of the topics covered by the course's theoretical elements. Analyses occur as class exercises, exam style questions and tests and as part of the Non-exam Assessment project.

Drawing and presentation skills will be covered to allow effective design communication.

Design Projects.

Project 1.

Students will undertake an induction project based on the development of spatula designs for use in a domestic context. The skills of research, analysis, design, presentation, planning, making and evaluating develop skills for use in later projects and coursework.

Project 2.

Students will base a personal design on the work of Dieter Rams and Sir Jonathan Ive using the iterative design process. This models what will be required for the Non-Exam Assessment component in Yr 11.

Project 3 The course allows students will complete a modelling exercise designing a piece of tubular furniture based on the ideas of Marcel Breur.

Project 4 Mobile phone charging and viewing stand modelling and realisation exercise

Recommended online resources:

<https://www.technologystudent.com/> Online resource providing resources, example test papers, animations, videos and teaching. Specifically aimed at the AQA syllabus.

<https://www.bbc.co.uk/bitesize/subjects/zvg4d2p> Learning and revision website that links to all D&T exam boards.

Students will also have access to the Focus education software for Product Design that is used for teaching many of the topics in class.