

DESIGN & TECHNOLOGY - PRODUCT DESIGN

(EXAM BOARD AQA) - COURSE CODE 8552

WHAT IS GCSE DESIGN & TECHNOLOGY—PRODUCT DESIGN?

The GCSE Design & Technology - Product Design course continues to build upon the detailed design work that students completed in Key Stage 3. Students are given the opportunity to investigate topics through a wide range of both teacher led and activity based student work. Students will use creativity and imagination to design and make *prototypes* that solve real and relevant problems. They will learn to use new analysis and designing techniques, equipment, a range of machinery and tools as well as the use of CAM (Computer Aided Manufacture), at the same time as developing existing skills, to further their understanding.

WHAT DOES THE COURSE INVOLVE?

You will investigate the wider world of design, looking at key designers, movements, trends and the wider impact design can have on the environment we live in. Alongside this, you will use primary and secondary research sources to investigate various design tasks where you will design a number of products, using both hand drawn and computer-generated methods. These designs will be developed and improved to create models and prototypes using a range of materials and techniques. You will develop your sketching, presentation techniques and manufacture a variety of products using some or all of the following materials - paper, cardboard, woods, plastics and even limited textiles, metals.

Theory is taught through a combination of focused theory lessons as well as some practical based tasks that develop skills and understanding of materials and processes. This creative *design* course allows students to design and realise innovative, forward thinking products using a variety of materials and is suited to those who can work with creativity and originality. It also gives students opportunities to apply knowledge from other disciplines including mathematics, science, art and computing.

WHAT THEMES WILL BE STUDIED?

GCSE design and technology has a wide and varying subject content and you will study a variety of themes including:

- The analysis of past designers and companies
- The impact of new and emerging technologies
- Developments in modern and smart materials
- The categorisation and properties of Papers & Boards, Timbers, Plastics, Metals & Textiles
- The functions of mechanical devices
- How energy is generated and stored
- How electronic systems and programmable components provide functionality to products and processes
- The main material focus for this specification will be **Papers & Boards** but all material areas will be covered

HOW IS IT ASSESSED?

Course code - 8552 - The course is made up of 2 units

Unit 1 - Written exam (50%) which incorporates questions on the core subject content (20%) and paper & board based design questions (30%). The exam paper has 15% of the marks devoted to design related Mathematics calculation questions.

Unit 2 - Non-examined Assessment (50%) which involves the design and manufacture of a working prototype based on a contextual challenge **provided by the examination board**. This is broken down as 40% for the design portfolio and 10% is for the practical.

EXTRA INFORMATION

You should enjoy solving practical problems through **design** using a range of materials and be prepared to work safely with all the equipment in the workshop. Knowledge of computer design packages such as *Techsoft* 2D-Design and *Adobe* Photoshop is an advantage. The quality of your drawing skills are important in GCSE design and technology, supported by the ability to plan and explain how practical processes are used in production. This **academic** subject prepares students for work as a designer in the modern world through links with mathematics, science, business and art & design. In Year 11 students are required to purchase their own materials for the practical element of the course.

WHAT NEXT?

A good grade in GCSE design & technology - product design enables students to progress onto a number of design based courses. A wide range of career paths stem from product design. The most common areas include; product design, automotive design, interior design, marketing and advertising, architecture, furniture design, industrial design, a range of engineering fields; civil, automotive and mechanical.

For more information please contact Mr A Gardner

DESIGN & TECHNOLOGY - TEXTILES

(EXAM BOARD EDEXCEL) - COURSE CODE 8552

WHAT IS GCSE DESIGN & TECHNOLOGY—TEXTILES?

The GCSE design and technology - textiles course continues to build upon work that students completed in Key Stage 3. Students will be given the opportunity to investigate topics through a wide range of both teacher led and activity based student work. Students will use creativity and imagination to design and make prototypes that solve real and relevant problems. They will, at the same time as developing existing skills, learn to use some new equipment, a range of machinery and tools as well as use of CAM (Computer Aided Manufacture) to further their understanding.

WHAT DOES THE COURSE INVOLVE?

You will design a number of products, using both hand drawn and computer generated methods, and create, using a range of materials and techniques. You will develop your sketching and presentation techniques and manufacture a variety of products using some or all of the following materials – textiles and even limited woods, plastics, metals, paper, cardboard and electronics. Theory is taught through a combination of focused theory lessons as well as some practical based tasks that develop skills and understanding of materials and processes. This design course allows students to work with a variety of materials and is suited to those who can work creatively and with originality through problem solving. It also gives students opportunities to apply knowledge from other disciplines including mathematics, science, art & design and computing.

THEMES STUDIED?

GCSE design and technology has a wide and varying subject content and you will study a variety of themes including:

- The categorisation and properties of textiles, metals, timbers, plastics and papers
- Developments in modern and smart materials
- The functions of mechanical devices
- The analysis of past designers and companies
- The impact of new and emerging technologies
- How energy is generated and stored
- How electronic systems and programmable components provide functionality to products and processes
- The main material focus for this specification will be **textiles** but all material areas will be covered

HOW IS IT ASSESSED?

Course code - 8552 - The course is made up of 2 units:

Unit 1 - Written exam (50%) which incorporates questions on the core subject content (20%) and Textiles based design questions (30%). The exam paper has 15% marks devoted to mathematics calculation questions.

Unit 2 - Non-examined Assessment (50%) which involves the design and manufacture of a working prototype based on a contextual challenge provided by the examination board. This is broken down as 40% for the design portfolio and 10% is for the practical.

EXTRA INFORMATION

You should enjoy solving practical problems through design using a range of materials and be prepared to work safely with all the equipment in the classroom. The quality of your practical work and skills are important in GCSE design and technology, supported by the ability to design, plan and explain how practical processes are used in production. This is an **academic** subject, which prepares students for design in the modern world through links with both mathematics, science, business, computer science and art & design. In Year 11 students will be expected to purchase the materials for their final prototype.

WHAT NEXT?

A good grade in GCSE design and technology - textiles enables students to progress onto a number of design based courses, including Wollaston School's Sixth Form BTEC level 3 fashion and design and A Level product design. A wide range of career paths stem from textiles, which include; fashion design, costume design, interior designer, retail buyer, retail manager, journalist, pattern cutter, retail manager and assistant, textiles technologist, tailor, production manager, personal stylist, teacher/higher education and project management and textile engineering.

For more information please contact Miss V Ayres, Mrs F Bland