



### Time, Equipment and Expenses:

There are no equipment costs. Students will be provided with some CAD software for home use costing £2 for the disc cost and a trip in year nine will have a voluntary contribution of about £10. They will otherwise require standard personal school equipment.

For more information please speak to Mr Hall,  
Head of Art & Design  
or your Technology teacher

## GCSE DESIGN AND TECHNOLOGY

**Exam Board: 4550 AQA GRAPHIC PRODUCTS**

**(Code: Gp)**

**Exam Board: 4560 AQA RESISTANT MATERIALS (Code: Rm)**

### **“Why study Design & Technology?”**

The design, control and planning of the interaction between people, their built environment and the natural world is our daily and long-term dilemma and responsibility. No other curriculum area prepares us as thoroughly as decision makers, consumers or practitioners as Design and Technology.

I hear and I forget. I see and I remember. I do and I understand. – D. Pye

Design and technology is a predominantly practical subject which requires the application of knowledge and understanding when developing ideas, planning, producing products and evaluating them. The distinction between designing and making is a convenient one to make, but in practice the two merge. For example, research can involve not only investigating written documentation and people's opinions, but also investigating proportions, colour, structures, circuits and materials through practical work. There is an emphasis upon analysis through all the stages of design and making which has three stages for the assessment: task setting, task taking and task marking.

Technology department is offering two GCSE courses from September 2016:

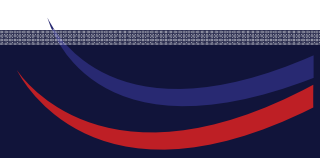
Design and Technology : Graphic Products (SWB Code : Gp)

Design and Technology : Resistant Materials (SWB Code : Rm)

The emphasis in all courses is on designing and making products. Students build upon the knowledge and understanding of industrial practices, and applications of systems and control developed in Key Stage 3.

These courses provide appropriate foundation for further study of related post 16 courses such as Product Design at AS and A2 level or engineering and arts/textiles based subjects in other institutions. The work produced for coursework folios provides the basis of a suitable portfolio to show at further or higher education interviews.

Career paths for which Design and Technology provides appropriate skills, knowledge and empathy include; architecture, mechanical engineering, surveying, cartography, animation, graphic design, packaging, interior design, web design, computer based work in all design and manufacturing related professions, health and safety, material testing, civil engineering, environmental planning, ergonomics and many more!



## **GCSE DESIGN AND TECHNOLOGY CONTINUED...**

### **Graphic Products**

Here students design with compliant materials and focus upon manipulating the visual aspects of products. A range of skills are developed such as sketching, pictorial drawing, production drawing, information graphics, typography, CAD applications, digital images, nets and tessellations, product modelling and CAM (computer aided manufacture). Assignments cover packaging disassembly and production, point of sale, analysis and redesign exercises in Year 9. The Year 10 work centres around a Clock Product and a Heritage Building Toy. The main focus for the design and make work in Year 11 is a major project based on the Exam Board Tasks.

### **Resistant Materials**

This course is concerned with designing and making through a range of materials including wood, metal and plastics and caters for electrical applications to be incorporated into designs. It is a very practical course and in year 9 will cover Graphic and CAD skills, along with projects in engineering, silversmithing, jewellery, plastics, timber and combined materials. Year 10 begins with an aluminium sand casting assignment and the manufacture of a ballpoint pen using CNC machining, wood turning, centre lathe processes and fine threads. A flat-pack product is designed and made in groups to address batch production methods and home assembly issues. During this phase students extend their use of CAD modelling, assembly, rendering and drawing to develop and present their work. The final assignment deals with targeting an individual piece at a chosen consumer and a product is designed and made using a wide range of forming and assembly techniques with wood and plastics incorporating CAM (computer aided manufacture) applications. The main focus for the design and make work in year 11 is a major project based on the Exam Board Tasks.

### **Assessment Pattern**

For all courses there is a common core covering the design process and the wider issues of design in society, health and safety, environment and sustainable materials industrial processes, systems and control, communication skills including ICT, quality assurance and control, product analysis and evaluations. Years 9 and 10 provide the foundation for Year 11 controlled assessments and the knowledge required for the examination.

Supervised controlled assessment (60%) comprises a single integrated Design and Make project for each of the courses consisting of a 3-dimensional product and a concise design folder lasting for 45 hours during Year 11 from an exam board set task list.

Terminal examination (40%) comprising a single tier written paper covering grades A\*- G based upon the taught topics in Years 9, 10 and 11. A pre-release sheet is issued on 1st March in advance of the examination, indicating the nature of the design context.

