

### **Key Stage 3**

#### **Year 7**

Students in year 7 spend half the year studying Food Technology and the other half working with Resistant Materials and Systems.

In Food Technology students work on a series of short design and make projects based on simple recipes. A range of practical sessions include the planning and preparation of dishes including toasted sandwiches, pizza, pasta salad, fairy cakes and apple crumble. Students learn about Health and Safety in the food preparation environment, healthy eating, nutrition and other food related issues such as sustainability and batch production.

In Materials Technology students work on two projects. The first is a CAM toy product where they learn about timber manufactures and simple mechanisms. They also learn about CAD (computer aided design) and CAM (computer aided manufacture). The second project is to design a laser cut maze product where they consolidate and further develop their knowledge of CAD/CAM.

#### **Year 8**

Students in year 8 spend half the year studying Food Technology and the other half working with Resistant Materials and systems.

In Food Technology students work on a series of short design and make projects based on simple recipes. A range of practical sessions include the planning and preparation of dishes such as curry, savoury rice, bread making , fruit muffins, pasta sauce, marble cake and suet crust pastry. Students learn about healthy eating, nutrition and other food related issues such as sustainability and seasonal availability.

In Materials Technology students work on two projects. The first is a Memphis Design themed clock project. Students learn about plastics and a full range of thermoforming processes including thermoforming, vacuum forming and injection moulding. They are given the option of using all of these methods in their products. The second project uses CAD (computer aided design) and CAM (computer aided manufacture) to produce a piece of pewter cast jewellery. This project consolidates and develops the skills learned in year 7.

#### **Year 9**

Students in Year 9 spend half the year studying Resistant Materials and systems and the other half working with Food Technology.

In Materials Technology, students work on a mood light project centred around an electronic sensor and LED. The project includes working with a range of timbers, metals and plastics and many varied manufacture processes. They also develop their isometric drawing, computer aided design (CAD) and their presentation skills.

In Food Technology, students work on a project which examines ready meals and how food is manufactured in volume, packaging is an important feature.

## **Key Stage 4**

### **GCSE Product Design**

*Exam Board: AQA*

Course Outline: AQA GCSE Product Design has 2 units - an externally assessed exam paper (40% of the overall grade) and a controlled assessment project (60% of the overall grade). The controlled assessment project is a design and make activity. Students produce a detailed portfolio of the development of their product from first ideas right the way through to manufacture and evaluation. This is submitted electronically in the form of a Microsoft PowerPoint or Publisher document. The focus for the controlled assessment project is a theme set by the exam board; this is to design a product in the style of a designer or design movement. Students are taught the majority of the theory needed for the exam through the controlled assessment task.

## **Key Stage 5**

### **A Level Product Design**

*Exam Board: AQA*

Course Outline: Students follow the AQA GCE Product Design specification which is split into the following four units.

**PROD 1** is an externally assessed written paper, the focus of which is 'Materials, Components and their Application'. This unit is worth 50% of the AS Level and 25% of the whole qualification. Theory and homework tasks are set which develop student's material knowledge and their knowledge of both workshop and industrial manufacture.

**PROD 2** is a coursework unit; this is marked internally and moderated by the exam board. This unit is also worth 50% of the AS Level and 25% of the whole qualification. Students are required to complete a high quality portfolio of design work and manufacture innovative products of a high quality. An iterative and client focused approach is critical to success. Students follow two briefs; the first is the design and manufacture of a lighting product and the second a computer aided design and computer aided manufacture (CAD/CAM) project.

**PROD 3** is an externally assessed written paper, which focuses on three main sections; 'Materials and Components', 'Design and Market Influences' and 'Processes and Manufacture'. This unit is worth 25% of the A Level qualification. Theory and homework tasks are set which develop student's subject knowledge in relation to these three main subject areas.

**PROD 4** is the major project and final coursework unit; this is again marked internally and moderated by the exam board. This unit is worth 25% of the final A Level qualification. Students are again required to complete a high quality portfolio of design work and manufacture innovative products of a high quality. An iterative and client focused approach is critical to success. Students follow a design brief of their own choosing and must follow the design process from investigation, design development, product manufacture through to product testing and evaluation.