Craig Ormerod Associates Ltd.

Subject Overview: Design Technology (KS3)

YEAR 7

Module 1: Food Technology (1) - ***Food and Nutrition***

Hygiene and safety, correct use of equipment and healthy eating are the key topics for Year 7. The dishes made include fruit salad and pasta salad. There is also a design-and-make activity for a seasonal salad pot.

Module 2: Graphics - ***Dynamic Pop-up Greetings Card***

Pupils design and manufacture a mechanised greetings card. Corporate identity and the role of the industry are examined closely. Pupils are encouraged to develop their own ideas and to be as creative as possible, as well as to self and peer-assess their work.

Module 3: Resistant Materials (1) - ***Key Rack***

Pupils design and manufacture a personalised key rack made from softwood. Joining, finishing and the various families of wood are studied. Pupils also learn how to safely and correctly handle the equipment used in the manufacture of softwood. Pupils are encouraged to develop their own ideas and to be as creative as possible, as well as to self and peer-assess their work.

Module 4: Systems Electronics – ***Picture Frame and Minion Light***

Using different types of wood, pupils design and manufacture a picture frame and a Minion light that each contain an electronic circuit. Pupils study established theory relating to electronic principles and complete self and peer-assessment of their work.

YEAR 8

Pupils complete a carousel system of study encompassing four modules of study lasting between eight and nine weeks.

Module 1: Food Technology (2) - ***Food and Nutrition***

During Year 8, the focus on is baked products. Pupils develop their practical skills by creating scones, a fruit crumble, muffins, bread-based pizza and tomato and basil flan.

Module 2: Systems & Control/Graphics (1) - ***Moisture Sensor***

Pupils design and manufacture a moisture sensor housed in a card enclosure. Pupils study different types of electronic systems, control system theory, soldering and the function of various electrical components. The graphical element of the module involves the production of a card net storage box which is then customised by pupils, who self and peer-assess their work.

Module 3: Resistant Materials (2) - ***Acrylic Clock***

Pupils design and manufacture a clock made from acrylic. Pupils learn about different families of plastics and how they are finished using vacuum forming and injection moulding, as well as the tools and equipment used in the manufacture of plastic products. Pupils are encouraged to develop their own ideas and to be as creative as possible, as well as to self and peer-assess their work.

Module 4: Resistant Materials (3) – ***Metalwork and Metal Forming***

Pupils work from standard drawings to manufacture an aluminium key fob and a steel bracket for a hanging basket. Pupils study different types of metals and theories relating to sustainability, as well as the different types of tools, equipment, joining methods and surface finishes associated with metals. Pupils then complete self and peer-assessments of their work.

YEAR 9

Pupils complete a carousel system of study encompassing four modules of study lasting between eight and nine weeks.

Module 1: Food Technology (3) - ***Food and Nutrition***

Cake-making is the focus for Year 9, culminating in the design and baking of a celebration cake. Food safety is another key aspect of this module. Other dishes include a tray bake and spaghetti Bolognese.

Module 2: Resistant Materials (4) - ***Gadget Holder***

Pupils design and manufacture a gadget holder made from combined wood, plastic and metal. In doing so, pupils revisit key concepts relating to joining and finishing first covered in Years 7 and 8. Pupils are encouraged to develop their own ideas and to be as creative as possible, as well as to self and peer-assess their work.

Module 3: Resistant Materials (5) – ***CAD/CAM***

Working from standard drawings, pupils utilise Computer-aided Design and Computer-aided Manufacturing software to produce an acrylic bookmark, a steel and plywood house sign and an acrylic pencil holder. Pupils receive in-depth instruction on the use of workshop tools and equipment, as well as how to operate the CAD/CAM, buffing and line bending machines. Pupils then complete self and peer-assessments of their work.

Module 4: Systems & Control/Graphics (2) - ***Automata***

Pupils design and manufacture a variety of automata from card. Pupils study different types of systems and theories relating to mechanical control systems, as well as using complex net constructions to assemble their final products. Pupils then complete self and peer-assessments of their work.