Subject leader – Mrs S Reynolds, D&T teachers – Ms B Luter, Mr B Rainbird

D&T technicians – Mrs J Moore and Mr S Jennings

KS3 Design and Technology

In KS3 students are introduced to a range of materials, tools and equipment. There is currently a carousel system in place in year 7 and 9. The aim is always to be able to work safely, confidently and competently in the Academy workshops. Throughout each material area students are taught about sustainability; life cycle assessment and where materials come from. CAD is also taught in each year group.

Year 7: Students work in textiles, graphics and electronics.

Textiles: Design and make a cushion. Students learn how to produce and apply decorative techniques such as embroidery and applique to fabric, use a pattern and use the sewing machine to construct their cushion. They also learn about the properties of fabrics and fibres and how they are constructed.

Graphics: Use basic electronics to make a speaker. Students learn how to solder components onto a circuit board and what each component does.

Graphics: Design and make blister style packaging for their speaker. Students learn basic CAD (2D Design) to produce graphics for their packaging. They learn about and apply graphical symbols and colour theory to their packaging. Students also learn about plastics; how they are formed and different types of.

Year 8: Students work in textiles and follow the same scheme of work as year 7 students.

Year 9: Students work with wood, metal and modelling materials. They also learn basic 3D CAD (Solid Edge).

Students design and make a pewter keyring, learning about mould making and metal casting. They also make a small box using pine and MDF. The focus of the box is accuracy: measuring, marking and cutting.

Model making is taught through a rocket car project. Students learn about the iterative design process which mirrors the coursework undertaken at GCSE if they choose to continue their D&T education.

Students are assessed throughout the year with 3 exam papers and in D&T lessons, working in booklets.

GCSE Design and Technology

We teach the OCR Design and Technology new specification (1-9). It consists of 50% non-exam assessment (coursework) and 50% exam taken at the end of year 11. Students are expected to have a good level of maths and science as this makes up 15% of the exam.

Yr 10 – students will be encouraged to work independently and creatively to produce products from design situations and briefs. They will need to learn a good level of CAD/CAM and work respectfully and safely in the workshop.

In June of year 10 students will be given their coursework to start and this will need to be completed by the Easter of year 11.

Yr 11 students will complete the NEA, an iterative design process, and this involves producing a prototype which can be tested and evaluated. Students are expected to 'explore, create and evaluate' – a process which encourages creative thinking skills and management of processes.

Useful websites include: http://www.bbc.co.uk/education/subjects/zvg4d2p,

http://www.technologystudent.com/, http://www.ocr.org.uk/qualifications/gcse-design-and-technology-j310-from-2017/