

# Whitworth Community High School

## DT Department

<p>Teacher in Charge/Faculty Leader: S.Sheldon</p>	<h3>DT Learning Overview</h3>
<p>Organisation of the classes: Class size is set through option blocks at the end of Y9 and is ideally 18 students or less. Classes are mixed ability but pupils readily support each other as it reinforces their own learning.</p>	
<p><b>Key Concepts</b> Students will be taught to use Computer Aided Design softwares such as Solidworks(3D), Photopea digital images editor and 2d Techsoft to enable them to progress to using Computer Aided Manufacturing hardwares such as Laser cutters, 3D printer and machine embroiderers. Students will look at key Topics relating to Textiles, Resistant materials, Electronics and Graphics. Focused practical tasks are used to embed and refine practical skills in Y10. Topics such as finishing techniques, joints, materials research and use, sustainability and key designers are looked at. Students focus on producing their design folder (20 A3 pages) and a range of products that satisfy the rigours and demands needed to provide a successful solution to the identified problem posed by the examination board. The controlled assessment takes a large part of the year before theory work continues as part of examination preparation.</p>	<p><b>What skills do I use in this subject?</b></p> <ul style="list-style-type: none"> <li>● Problem and task analysis</li> <li>● Independent working and sharing new skills with others</li> <li>● Applying knowledge from KS3 and general knowledge</li> <li>● Drawing and design skills to show a range of ideas</li> <li>● Product analysis through disassembly</li> <li>● Developing KS3 knowledge and subject understanding</li> <li>● Graphical drawing skills to enhance 3D designs</li> <li>● Developing and refining practical skills using hand and machine tools</li> <li>● CAD/CAM work</li> </ul>
<p><b>What will you be learning?</b> To apply quality control measures to ensure a successful artefact is completed on time and work to deadlines. You will learn to meet the needs and requirements of a client's brief. Theory work covers environmental, moral and social issues as well as industrial methods of production and various processes used to produce products in quantity. Topics such as finishing techniques, joints, materials research and use, sustainability and key designers are looked at along with materials and ways of cutting and shaping different woods and plastics are covered. A clear understanding of the design process is re-enforced.</p>	<p><b>How will you be learning?</b></p> <ul style="list-style-type: none"> <li>● Through safe conduct in the workshops</li> <li>● By analysing existing products in whole class and small group discussion</li> <li>● By independent research and development of ideas</li> <li>● Using CAD software and the Laser (CAM) machine</li> <li>● By designing for a set brief</li> <li>● On going evaluation of own products and progress</li> <li>● Applying quality control to the construction process</li> <li>● Applying quality control to the final finish of the artefact</li> <li>● Considering scale production and industrial processes</li> </ul>
<p><b>How will your learning be assessed?</b> Theory work is teacher, self and peer assessed. Controlled assessment is continually reviewed with oral and written feedback given as appropriate. Home Learning is a chance to keep up with controlled assessment and prepare for examination tasks are assessed when set during each project. Marks are given in line with GCSE grades.</p>	<p><b>Home Learning</b> At GCSE, students receive Home Learning every week.</p>
<p><b>Equipment needed?</b> School required equipment is mandatory. It is also essential that students have a good set of coloured pencils. Copy of AQA related study and revision guide.</p>	<p><b>How can your parents support your learning?</b> By acting as a target customer for your products and contributing to evaluations. By ensuring that you are thorough in completing written tasks. Encourage them to be thorough with their research and to be creative with their design solutions. Review their controlled assessment and design ideas. Encourage them to be thorough with their research and to be creative with their design solutions. In practice, you should be able to make the same product following their folder work.</p>
<p><b>SMSC Links – Focus on Aspirations</b> Students have opportunities to give their own personal reflections throughout DT at both key stages. Mutual respect is engendered through peer and self-assessment and students should be open to ideas that help them to adapt their ideas in light of misconceptions. We empower students to take criticism positively and to articulate their views in a respectful and sensitive way.</p>	<p><b>What extra-curricular activities or enrichment opportunities are available?</b> Laser club on a Tuesday lunch and various, weekly interventions at lunchtime and after school.</p>

Creating products using a variety of machinery and equipment creates an excitement and a sense of real achievement. Lessons include careers in DT and students are able to see the wealth of jobs included in DT careers as something to aspire too.