

# DESIGN & TECHNOLOGY



**Curriculum Aims, Delivery & Content**



<p><b>Curriculum aims Key Stage 3</b></p>	<p>The KS3 DT curriculum aims to give all students a quality understanding of the research, design and making processes using traditional and modern techniques. We aim to develop students' interest, confidence and understanding through;</p> <ul style="list-style-type: none"> <li>• Explore Create Evaluate</li> <li>• Design Test Refine</li> <li>• Communication- To be able to communicate ideas verbally, in written and visual form</li> <li>• Knowledge -To develop and extend design and make skills and processes, material knowledge and appropriate application</li> </ul> <ul style="list-style-type: none"> <li>• Designing-To be able to use a variety of design processes; working to contexts, user needs and wants</li> <li>• Using sources to develop creative outcomes, analysing the work of others, problem solving, present their work clearly and accurately.</li> <li>• Practical- be able to safely perform a range of skills with an element of precision, accuracy and control.</li> <li>• Using the correct tools and equipment safely and accurately</li> <li>• Evaluation -To be able to evaluate the work throughout the process; recognise strengths and weaknesses and suggest ways to improve.</li> </ul>
<p><b>Curriculum Delivery KS3</b></p>	<p><b>Students in Design technology are taught in rotation. They have one 100-minute lesson a week</b></p> <p>In <b>Year 7</b> the block will comprise of around 12 weeks of teaching. In <b>Years 8 and 9</b> there will be three 6-week blocks.</p> <p>Students will complete project assessments at the end of each topic which identify key knowledge and skills that have been learned.</p> <p>Opportunities are given to gain confidence and skills in a workshop environment Students create and present work of their own and respond to set briefs with their solutions.</p> <p>Students are encouraged to be independent and resilient when faced with a problem. They must always act responsibly in a safe manner. Health and safety is taken very seriously</p>
<p><b>Curriculum Content Year 7</b></p> <p><b>Students will have 1 lessons a week . This will comprise of one 12-week block of teaching.</b></p>	<p><b>Decorative Jewellery</b></p> <p><b>Explore</b> Students will research existing products/consumers/clients. Develop design and making skills through practical tasks. Discover what a Design brief and specification are and do. They will be introduced to a range of technical drawing techniques- orthographic, isometric and perspective. Students will use and learn about metals; ferrous and non-ferrous</p> <p><b>Create</b> Students will use of a range of materials such as Pewter, acrylic, and MDF. CAD and CAM will be incorporated into project work, where appropriate. Students will use metal, marking/measuring out materials, forming moulds and using the casting process. They will learn how to finish to a high standard using abrasives and polish. Presentation of work will be important, and students will learn how to combine materials to best present their outcomes.</p> <p><b>Evaluate</b> They will understand how to critically evaluate their own and others work to develop outcomes through the iterative design process</p>



# Bottisham Village College

Achievement through Inspiring, Caring, Enriching

<p><b>Curriculum Aims Year 8</b></p>	<p>Students in Year 8 will continue to develop their competency and confidence through further exposure to design and making processes and techniques. They will apply taught techniques when interpreting and responding to set briefs. They will investigate realistic scenarios and analyse problems, providing potential solutions that draw upon research and knowledge.</p>	
<p><b>Curriculum Content Year 8</b></p> <p>Students will have 1 lessons a week . These will comprise of three 6-week blocks of teaching.</p>	<p><b>Product design and research</b></p> <p><b>Explore</b> Students research sources. They investigate existing products and relevant consumers/clients. They will continue to develop their design and making skills, learning how to combine colour and tone to create 3D designs. Students will write Design briefs and specifications that meet the user’s needs. They will continue to use technical drawing techniques such as orthographic, isometric and perspective drawing. They will make links to Artists and designers from the 20th Century and these will influence designs and outcomes.</p>	<p><b>Create</b> Students will use of a range of materials such as Plywood, acrylic, and MDF. CAD and CAM will be incorporated into project work, where appropriate. They will learn about bending and joining wood through different means.</p> <p>Presentation of work will be important, and students will learn how to combine materials to best present their outcomes.</p> <p><b>Evaluate</b> Evaluation throughout projects will inform design decisions, students will be encouraged to assess their own decisions throughout their learning journey as well as testing outcomes against design criteria.</p>
<p><b>Curriculum Aims Year 9</b></p>	<p>During Year 9 students will continue to build upon skills and processes they have learnt and apply them to higher level tasks that incorporate further challenge. Our aim is to enable students to work with further independence, making design choices that relate to real world demands with relevant contextual challenges.</p>	
<p><b>Curriculum Content Year 9</b></p> <p>Students will have 1 lessons a week . These will comprise of three 6-week blocks of teaching.</p>	<p><b>Product design and research</b></p> <p><b>Explore</b> Students continue with Research, design and making skills, exploring existing products/consumers/clients. Further development of and justification for content within design briefs and detailed specifications based on research. Drawing techniques will be expanded to include exploded diagrams and more complex orthographic, isometric and perspective drawings.</p> <p><b>Create</b> Students will use a range of materials of materials – Plywood, MDF and acrylic, and incorporate CAD/ CAM to develop outcomes (Use of 2D design, Tinker CAD</p>	<p>The importance of sustainability to identify the 6r’s and the use of upcycling. Continued links to designers will be explored through research as well as the introduction of polymers and associated techniques and processes. Maths and science is used through measurement, dimensioning and tolerances, and investigation into mechanisms. Appropriate finishing techniques and presentation.</p> <p><b>Evaluate</b> Evaluation and reflection throughout will help embed an iterative approach.</p>



<p><b>Curriculum Aims KS4</b></p>	<p>The KS4 curriculum provides students with an opportunity to build on their KS3 DT experience. There will be a focus on the iterative design process where students will undertake practical tasks designed to provide an experience of different materials and processes. More in depth project tasks are studied to support the specialist technical principles and designing and making principles.</p> <p>We aim to offer a broad Design and Technology Curriculum that inspires all students to become better designers and makers. We teach students to be better problem solvers.</p>	<p>The aim of AQA <b>GCSE Design and Technology</b> is to equip students with the skills, knowledge and independence to continue with design and make activities at a higher level. They will have the ability to choose a pathway that suits their strengths and interests within a broad range of fields and industries.</p> <p>The aim of WJEC <b>Construction and built environment</b> is to provide a relevant introduction to the construction industry. It incorporates many aspects across the industry. Students learn to apply their knowledge to realistic scenarios, while developing relevant practical and technical skills.</p>
<p><b>Curriculum Delivery KS4</b></p>	<p><b>AQA GCSE Design and Technology.</b> The <b>Exam</b> component accounts for 50% of the final marks. The exams assess a student's ability and knowledge of core technical principles, specialist knowledge and design and making understanding. The NEA (Non-Exam assessment)) areas will be completed in Year 11 and is the other 50% of the qualification demonstrating research, evaluation, design and make skills</p> <p><b>Students will have 3 lessons of Design Technology a fortnight.</b></p>	<p><b>WJEC Constructing the built environment Vocational qualification</b> Lessons are taught in an applied manner and assessment is ongoing for all Units apart from Unit 1 which is an externally set exam. Students will be entered for the exam at the end of Year 11.</p> <p><b>Students will have 3 lessons of Construction a fortnight.</b></p>
<p><b>Curriculum Content Year 10</b></p>	<p><b><u>AQA GCSE Design Technology</u></b></p> <p><b>Explore – Create - Evaluate</b> will underpin projects. It will be used to help students design and develop outcomes in suitable materials that meet user's needs, solve contextual, real-life issues and take into consideration the environment and our impact on it.</p> <p>The course consists of three key elements:</p> <ul style="list-style-type: none"> <li>• Core technical principles</li> <li>• Specialist technical principles</li> <li>• Designing and making principles</li> </ul> <p>Students will study a range of topics as well as developing their practical, design and make skills, and knowledge and understanding of relevant techniques and processes.</p>	<p><b><u>WJEC Constructing the built environment</u></b></p> <p><i>Unit 1: Safety and security in Construction (external exam)</i> Unit 3: Practical construction skills</p> <p>The practical units cover Carpentry and Joinery, Decoration and Electrics. Students complete the practical tasks, responding to a set project brief.</p> <p>Alongside the practical work students will be introduced to Construction technology. This will inform students on current safe practice, materials and structures, relevant to the industry. This will prepare them fully for the externally set examinations.</p>
<p><b>Curriculum Content Year 11</b></p>	<p><b>AQA GCSE Design and Technology</b> The NEA (non-examined assessment): Previously known as coursework, is 50% of the final grade. Marks are given for researching, developing designs and making a final prototype. Work is presented in a portfolio documenting each stage of the design process and must show iteration. This will be based on a 'contextual challenge' that is set by the exam board at the end of year 10. NEA style supporting activities will be studied throughout the course to help students thoroughly prepare for the main NEA task.</p>	