

Year 10	Summer B	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
Unit & length	Bagtags 6 weeks	Alimals 7 weeks	Nuclear Meltdown 7 weeks	Luminals 6 weeks	Framed/Geolantern 6 weeks	Paper 2: Project 6 weeks	Paper 2: Project 6 weeks
Curriculum outline	To enhance the work completed in year 9 using more complex techniques processes and equipment to design, and make an aluminium bagtag. Gain an understanding of the mandatory and necessary safety precautions when using a variety of tools, machines, materials within DT. To introduce students' to the key stage 4 structure, the course outline, examinations and weighting. Theory lessons focus on recycling and sustainability.	This unit has a focus on design modelling and iteration. Students will be introduced to dynamic drawing and sketch modelling. Students use CAD for preliminary design ideas which are developed into working solutions. They will practice metal fabrication techniques and finishing. Theory lessons focus on metals; origins, production and mechanical and working properties and processes.	This unit focus is on the energy sources and conservation learnt in the Bagtag project. The project has a design and make activity which reinforces and brings the learning previously covered to life in an exciting and fun way that helps students give the knowledge context. This includes paired work and lots of independent research and investigation to find a solution to the problem outlined. Theory lessons focus on design and technology in society and the responsibilities designers have in resource management.	The unit is built around the theme of recycling and lighting with students creating their own materials using recycled bottle lids collected in partnership with La Collete waste management centre. Students will create a design brief, research a target audience and demographic, create a series of initial ideas and develop one selected idea using modelling (including 2D and 3D CAD) into a final design with orthographic drawings. Students then realise the final idea and create the electronics to illuminate the lamp building on the work they did in year 8 with more complex skills and dexterity required. Theory lessons focus around polymers, origins, classification, uses, production and processes.	This unit's focus is around CAD/CAM with students becoming more independent with the use of the laser. Students will design and make a lantern based around 1 or more of the platonic solids (tetrahedron, Hexahedron, Octahedron, dodecahedron and icosahedron). Students will create zentangle inserts using digital techniques and 5v usb powered lights will illuminate the shapes from within. Theory lessons focus around timbers, origins, classification, uses and conversion and processes.	Identification of a need or opportunity with a brief analysis leading to a design brief. <ul style="list-style-type: none"> <li>• explore several possible design needs or design opportunities</li> <li>• identify and explore the needs of intended user/s</li> <li>• develop one potential design need/opportunity</li> <li>• present a full and clear design brief</li> </ul> Research into the design brief resulting in a specification <ul style="list-style-type: none"> <li>• complete research into aspects of the design brief</li> <li>• consider needs of user/s</li> <li>• analyse data/information generated</li> <li>• produce a detailed and justified specification</li> </ul>	Generation and exploration of design ideas <ul style="list-style-type: none"> <li>• identify and sketch a wide range of imaginative solutions which are conceptually different</li> <li>• develop and clarify each solution with reference to the specification, using annotations</li> <li>• explore technical aspects of each idea/part idea, e.g. possible materials and constructions</li> <li>• evaluate ideas/part ideas regarding each specification point</li> </ul>
Assessment/s	DMA (50%) Annotated designs Final product Evaluation Test (25%) One sheet – recycling & sustainability (25%)	DMA (50%) Annotated designs Models Final product Evaluation Tests (50%) Product Design (25%) Metals (25%)	DMA (50%) Annotated designs/Models Final product Evaluation of project Tests (50%) Energy sources(25%) DT in Society (25%)	DMA (50%) Final Product Portfolio (25%) Tests (50%) Polymers (25%)	DMA (50%) Annotated designs Models Final product Evaluation Tests (50%) Product Design (25%) Metals (25%)	Portfolio Criterion 1 (50%) Completed sections above Exam (50%) Portfolio Criterion 2 (50%) Completed sections above Exam (50%)	Portfolio Criterion 3 (50%) Completed sections above Exam (50%)

Year 11	Autumn A	Autumn B	Spring A	Spring B	Summer A
<b>Unit &amp; length</b>	Paper 2: Project 7 weeks	Paper 2: Project 7 weeks	Paper 2: Project 6 weeks	Revision 6 weeks	Revision 6 weeks
<b>Curriculum outline</b>	<p><b>Development of proposed solution</b></p> <ul style="list-style-type: none"> <li>clarify main features/ aspects of proposed solution</li> <li>use modelling and trialling where appropriate to test aspects of the proposed solution</li> <li>specify details of form, materials and construction/ production methods</li> <li>evaluate the proposed solutions regarding the specification points</li> </ul> <p><b>Planning for production</b></p> <ul style="list-style-type: none"> <li>produce high-quality working drawings which include full details for manufacture</li> <li>produce a production plan which includes the stages of manufacture</li> <li>specify fittings and finishes, and provide a material list</li> </ul>	<p><b>Product realisation</b></p> <ul style="list-style-type: none"> <li>produce a product which demonstrates an ability to manipulate materials sensitively and use technologies successfully</li> <li>complete and finish the product to a high standard</li> </ul>	<p><b>Testing and evaluation</b></p> <ul style="list-style-type: none"> <li>test the product (in the intended environment, where possible)</li> <li>make justified comments about the performance of the product regarding the expectation of the specification points</li> <li>identify strengths and weaknesses of the product</li> <li>evaluate the project overall, making concluding comments about the successes and limitations of the product</li> <li>identify proposals for further development of the product</li> </ul>	<p>Exam practice for common content (product design) and specialist area (resistant materials).</p> <p>Knowledge retrieval Theory revision strategies Walking talking mocks Timed activities Revision games and activities Activities are shaped by QLA (question level analysis) of mock exams and assessments. Modelling exam answers</p>	<p>Exam practice for common content (product design) and specialist area (resistant materials).</p> <p>Knowledge retrieval Theory revision strategies Walking talking mocks Timed activities Revision games and activities Activities are shaped by QLA (question level analysis) of mock exams and assessments. Modelling exam answers</p>
<b>Assessment/s</b>	<p><b>Portfolio Criterion 4 (50%)</b> Completed sections above <b>Exam (50%)</b></p> <p><b>Portfolio Criterion 5 (50%)</b> Completed sections above <b>Exam (50%)</b></p>	<p><b>Portfolio Criterion 6 (50%)</b> Completed sections above <b>Exam (50%)</b></p>	<p><b>Portfolio Criterion 7 (50%)</b> Completed sections above <b>Exam (50%)</b></p>	<p>Quizzes, questions, exams in whole and part.</p> <p>Marked against mark schemes</p>	<p>Quizzes, questions, exams in whole and part.</p> <p>Marked against mark schemes</p>