



The De Montfort School

UNLOCKING YOUR CHILD'S POTENTIAL

Programme of Learning

Design & Technology

Key Stage 3 – Year 9

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Design & Technology

Course Content	Assessment	Independent Study
<i>Year 9 Half Term 1</i>		
<p>Controller: Students analyse existing games controllers looking at ergonomics and aesthetics. They then generate a range of creative designs for a new controller before modelling a chosen design.</p> <p>Storage 1: Students will respond to a situation and develop a design brief and specification for a phone charger dock/storage system. They will then carry out research and generate designs which they will model and develop. Lastly they will plan how to manufacture the product using the workshop facilities.</p>	<p>Students will be internally assessed and given a level based on their ability to:</p> <ul style="list-style-type: none"> - Explore a task. - Generate ideas. 	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Evaluate existing products. • Practise sketching techniques. • Carry out independent research.
<i>Year 9 Half Term 2</i>		
<p>Storage 2: The bulk of this half term unit will be spent manufacturing students' chosen designs. In order to do this the students will develop their knowledge of resistant materials, processes and learn the practical skills relevant to their design.</p>	<p>Students will be internally assessed and given a level based on their ability to:</p> <ul style="list-style-type: none"> - Manufacture a product. - Evaluate the outcome. 	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Carry out further reading and homework tasks on materials and manufacturing theory.
<i>Year 9 Half Term 3</i>		
<p>Key Tag: This is a short project where students will design a key ring using computer aided design to be manufactured out of plastic on the laser cutter.</p> <p>Graphics 1: Students develop their knowledge of computer aided design by designing and manufacturing some innovative packaging for a healthy sports bar. To do this they will need to analyse existing products and respond to a design brief and specification. Once complete they will evaluate the outcome.</p>	<p>Students will be internally assessed and given a level based on their ability to:</p> <ul style="list-style-type: none"> - Develop and model ideas. - Evaluate the outcome. 	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Carry out further reading on CAD and CAM theory. • Complete design work using CAD.

<i>Year 9 Half Term 4</i>		
<p>Sustainability: This is a short project where students learn about sustainable design. They will be introduced to the 6R's (recycle, reduce, rethink, refuse, recycle, reuse).</p> <p>Structures: Students need to work effectively as a group to design the strongest structure they can using limited materials. They will learn structures theory before the task and will test the results at the end.</p>	<p>Students will be internally assessed and given constructive feedback.</p>	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Carry out further reading on structures theory. • Carry out further research into sustainability.
<i>Year 9 Half Term 5</i>		
<p>Graphics 2/Systems: Students will design and make an educational toy in this unit. They will make a simple circuit to illustrate correct/incorrect answers. They will also put into practise other skills learnt during year 9 (graphic design, CAD, workshop skills and the design process).</p>	<p>Students will be internally assessed and given a level based on their ability to:</p> <ul style="list-style-type: none"> - Plan the manufacture of a product. - Manufacture a product. 	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Try different methods of planning. • Complete systems & control homework tasks.
<i>Year 9 Half Term 6</i>		
<p>Students who opt for Design & Technology subjects will now specialise in either Resistant Materials or Graphics.</p> <p>Resistant Materials: Students will develop their knowledge of woodworking, materials, tools and processes by making a pencil box. They will work on accuracy and quality of outcome by following detailed plans. Students will then design a graphic for the lid which will be manufactured using the laser cutter.</p> <p>Graphics: Students will learn about graphic materials and pop up systems by designing and making a pop-up card. They will then learn about designing for a market by re-branding Evesham. Lastly they will learn about graphic manufacturing techniques by designing a new computer mouse with professional packaging.</p>	<p>Students will be internally assessed, given a grade and constructive feedback using criteria similar to the OCR GCSE mark scheme.</p>	<p>Students will be expected to:</p> <ul style="list-style-type: none"> • Carry out further reading and homework tasks on materials and processing theory.