

Curriculum Map 2021/2022



YEAR 10 Engineering

	Autumn 1a	Autumn 1b	Spring 2a	Spring 2b	Summer 3a	Summer 3b
<p>CONTENT</p> <p><i>Declarative/core/powerful Knowledge – ‘Know What’</i></p>	Pizza Wheel Project	Pizza Wheel Project Manufacture	Unit R106 Electric Drill Analysis	Unit R106 Electric Drill Analysis continued	Unit R107 - Developing and presenting engineering design	Unit R107 - Developing and presenting engineering design continued
<p>Skills</p> <p><i>Procedural Knowledge – ‘Know How’</i></p>	<ul style="list-style-type: none"> · Analysis of Ergonomics and Anthropometrics of everyday products · Modelling and prototyping ergonomic pizza wheel handle · Material testing and material analysis · Hand and machine tool practice · Understanding various drawing skills and when to choose the appropriate 	<ul style="list-style-type: none"> · Independently and confidently using machine and hand tools to manufacture · Ability to identify quality control checks in order to produce a high quality outcome · Understanding the use of solvents and resins · Accuracy of manufacture · Understanding how to effectively evaluate a finished 	<ul style="list-style-type: none"> · Understand how commercial production methods, legislation and standards impact on design. · Research existing products and produce a detailed analysis · Analyse an existing product through disassembly 	<ul style="list-style-type: none"> · Developing and presenting design proposals · Developing designs using engineering drawing techniques, including third angle projections and exploded drawings · Produce and communicate design proposals using Computer Aided Design · Designing using a range of 3D and 2D computer software (CAD) 		

	method, including third angle projections · Presentation of ideas including analysis	product and suggest further developments		
Key Questions	<ul style="list-style-type: none"> • How does ergonomics relate to your product? • What anthropometric data do you need? • How will you test the product durability? • Which tool is most appropriate for the task? • How will you ensure a high quality product? • How can you communicate your design? 			
Assessment	<p>Assessment 1 - Know how commercial production methods, quality and legislation impact on the design of products and components</p> <p>Assessment 2 - Be able to research existing products</p> <p>Assessment 3 - Be able to analyse an existing product through disassembly</p> <p>Assessment 4 - Be able to generate design proposals using a range of techniques</p> <p>Assessment 5 - Know how to develop designs using engineering drawing techniques and annotation</p>			