

KS4 Curriculum Map	Subject	Product Design
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Year 10 Autumn	Year 10 Spring	Year 10 Summer
<p><u>Theory (single lessons)</u> Industry Enterprise Sustainability People and culture Society and environment Production techniques and systems Critical evaluation of new and emerging technologies Fossil fuels and nuclear power Renewable energy Mechanical and electrical energy storage Inputs, processes and outputs Types of movement, magnitude and direction Cams and followers Friction chain and sprocket Pulleys and belts</p> <p><u>Accessory stand project (double lessons)</u> Context analysis Product analysis Client research Design brief and specification 2D/3D shape construction Rendering skills Design development Orthographic drawing Evaluating Practical skills to manufacture woods and plastics and modelling material</p> <p><u>Home Learning</u> Smart materials Modern materials Composite materials Technical textiles Papers Boards Maths/Science exam style questions Hardwoods Softwoods and manufactured boards Metals and alloys Thermoforming polymers Thermosetting plastics Natural and synthetic fibres, blended and mixed fibres Fibres</p> <p><u>Exam style class test</u></p>	<p><u>Theory (single lessons)</u> Selection of materials and components Forces and stresses Ecological and social footprint Sources and origins Using and working with materials Stock forms, types and sizes Specialist techniques and processes Investigation, primary and secondary data Design strategies Tolerances and allowances Material management Specialist tools and equipment</p> <p><u>LED picture frame project (double lessons)</u> Context analysis Product analysis Client research Design brief and specification Rendering skills Design development Orthographic drawing Evaluating Practical skills to manufacture plastics and modelling material Soldering Laser cutting</p> <p><u>Home Learning</u> Material properties Wood joints Maths/Science exam style questions Metal joining processes Plastic manufacturing and joining processes Metal manufacturing processes Timber based components Scales of production and rapid prototyping Surface treatments and finishes 1 - paper and boards and timber Surface treatments and finishes 2 - metals, polymers and PCBs Surface treatments and finishes 3 - textile based materials Design movements Past and present designers Past and present companies</p> <p><u>Exam style class test</u></p>	<p><u>Summer half term 1</u> Preparation for non-exam assessment(NEA)</p> <p><u>Summer half term 2</u></p> <p>PPE 1</p> <p>Start NEA</p> <p>The NEA is a design and making task that contributes 50% towards the students' final mark.</p> <p>Students will be expected to complete a folder consisting of twenty A3 sheets and a working prototype. Students will be marked on the following sections:</p> <p>Analysing and investigating design possibilities – 10 marks Producing a design brief and specification – 10 marks Generating design ideas – 20 marks Developing design ideas – 20 marks Realising design idea - 20 marks Analysing and evaluating – 20 marks</p>

Year 11 Autumn	Year 11 Spring	Year 11 Summer
<p>Continue NEA</p> <p>The NEA is a design and making task that contributes 50% towards the students' final mark.</p> <p>Students will be expected to complete a folder consisting of twenty A3 sheets and a working prototype. Students will be marked on the following sections:</p> <p>Analysing and investigating design possibilities – 10 marks Producing a design brief and specification – 10 marks Generating design ideas – 20 marks Developing design ideas – 20 marks Realising design idea - 20 marks Analysing and evaluating – 20 marks</p> <p>PPE 2</p>	<p>Complete NEA</p> <p>The NEA is a design and making task that contributes 50% towards the students' final mark.</p> <p>Students will be expected to complete a folder consisting of twenty A3 sheets and a working prototype. Students will be marked on the following sections:</p> <p>Analysing and investigating design possibilities – 10 marks Producing a design brief and specification – 10 marks Generating design ideas – 20 marks Developing design ideas – 20 marks Realising design idea - 20 marks Analysing and evaluating – 20 marks</p> <p>PPE 3</p> <p>Revision sessions</p>	<p>Revision sessions</p> <p>Final exam contributing 50% towards the students' final mark.</p>