

## CURRICULUM OVERVIEW FOR YEAR 10 D&T: ENGINEERING

Phase	1	2	3	4	5	6
Topic	Unit 1 re-design Unit 2 Make 1: tool box and tools.	Unit 3 Understand the effects of engineering achievements	Unit 1 re-design 2: Game controller for a young person Unit 2 Make 2: Mobile phone holder	Unit 3 Intense revision, exam practice/ questions and Mock examination	Unit 3 Intense revision, exam practice/ questions and Mock examination	Unit 1 Internal assessment (NEA) engineering Design
Knowledge	Design process, CAD. Development Use of various materials in the production of an outcome Safe use and maintenance of machinery.	Engineering developments Effects of engineering achievements How environmental issues effect engineering applications.	Product life cycle, CAD (2D and 3D) equipment.  Target market  Deciding on manufacturing processes and materials	Examination revision through use of past papers and knowledge organisers.  Practical theory through use of materials and equipment	Examination revision through use of past papers and knowledge organisers.  Practical theory through use of materials and equipment	Final Unit 1 assessment  Know how engineered products meet requirements  Communicate design ideas  Propose design solutions
Skills	Visual communication, practical activities (cutting, shaping and smoothing materials), interpretation of diagrams and symbols, verbal feedback, health and safety precautions, quality control during manufacture, CAD designing for CAM					
Key Marked Piece (Summative Assessments in bold)	Brief, Product analysis, Reverse engineering, specification, 2D design ideas, production plan, final Product	<b>End of phase assessment</b>	Unit 1- Brief, Product analysis, Reverse engineering, specification, 2D/3D design ideas working drawing  Unit 2- Production plan, final product and evaluation		<b>Unit 3 External Examination May/ June (all pupils)</b>	<b>Unit 1 internal moderation</b>
Vocabulary	<ul style="list-style-type: none"> <li>● Communication</li> <li>● Aesthetics</li> <li>● Ergonomics</li> <li>● Product analysis</li> <li>● Non ferrous</li> <li>● Sheet bending</li> <li>● Orthographic drawing</li> <li>● dimensions</li> </ul>	<ul style="list-style-type: none"> <li>● structural</li> <li>● mechanical</li> <li>● electronic</li> <li>● recycling</li> <li>● transportation</li> <li>● sustainability</li> <li>● environment</li> <li>● 6 r's</li> </ul>	<ul style="list-style-type: none"> <li>● Modelling</li> <li>● Prototype</li> <li>● Aluminium</li> <li>● Non-ferrous</li> <li>● plasterscene</li> <li>● Anthropometric</li> <li>● Ergonomics</li> <li>● 95th percentile</li> <li>● knurling</li> </ul>	<ul style="list-style-type: none"> <li>● specification</li> <li>● lathe</li> <li>● power tool</li> <li>● contingencies</li> <li>● conventions</li> <li>● job sheet</li> <li>● data charts</li> <li>● calculations</li> <li>● milling</li> <li>● CNC</li> </ul>	<ul style="list-style-type: none"> <li>● CAD</li> <li>● CAM</li> <li>● PCB tank</li> <li>● Multimeters</li> <li>● Brazing</li> <li>● Turning</li> <li>● Soldering</li> <li>● Marking out</li> <li>● Ferrous</li> <li>● Non-ferrous</li> </ul>	<ul style="list-style-type: none"> <li>● Communication</li> <li>● Aesthetics</li> <li>● Sustainability</li> <li>● Conventions</li> <li>● Hidden detail</li> <li>● Scale</li> <li>● Isometric</li> <li>● Dimensions</li> <li>● Ergonomics</li> <li>● User/client/customer</li> <li>● Radius</li> </ul>