



MAGHULL HIGH SCHOOL – CURRICULUM MAP

HALF TERM	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
TOPIC (S)	<p>OBJECTIVE.</p> <p>COMPONENT 1.</p> <p>LEARNING AIM B ASSESSMENT.</p> <p>DEADLINE. 28/1/2022.</p>	<p>COMPONENT 1.</p> <p>LEARNING AIM B ASSESSMENT.</p> <p>DEADLINE. 28/1/2022.</p>	<p>COMPONENT 1.</p> <p>LEARNING AIM B ASSESSMENT.</p> <p>DEADLINE. 28/1/2022.</p>	<p>COMPONENT 1.</p> <p>LEARNING AIM B ASSESSMENT.</p> <p>DEADLINE. 28/1/2022.</p> <p>Learning aim A: Understand materials, components and processes for a given engineering product.</p> <p>Teaching content A1: Materials.</p> <p>Component 2, A1, Engineering material categories: ferrous metals.</p> <p>Component 2, A1, Engineering material categories: non-ferrous metals</p>	<p>Component 2, A1, Engineering material categories: thermosetting polymers.</p> <p>Component 2, A1, Engineering material categories: thermoforming polymers.</p> <p>Component 2, A1, Properties of engineering materials.</p>	<p>Component 2, A1, Characteristics of engineering materials.</p> <p>Learning aim A: Understand materials, components and processes for a given engineering product.</p> <p>Teaching content A2: Components.</p> <p>Component 2, A2, Types of components.</p> <p>Component 2, A3, Types of engineering processes: shaping.</p> <p>Component 2, A3, Types of engineering processes: cutting.</p>
<p>Knowledge: Homework and ‘Do Nows’ using Component 2 Learning Aims.</p>						

Knowledge & Skills development	<p>A1 Materials • Engineering material categories: o ferrous, e.g. mild steel, wrought iron, stainless steel o non-ferrous, e.g. aluminium, titanium, copper, silver, zinc o thermosetting polymers, e.g. phenol-formaldehyde, polyimides, polyurethane o thermoforming polymers, e.g. polyethylene, polypropylene, acrylic. • Properties of engineering materials: o strength o hardness o toughness. • Characteristics of engineering materials, such as: o machinability o workability o durability. A2 Components • Types of components, such as: o proprietary, e.g. rivet, nut and bolt, screw, key, mechanical fixings, electronic components, such as resistors, capacitors, fuses, diodes o product specific, e.g. bush, flange, printed circuit board (PCB). • Characteristics of components, e.g. permanent/semi-permanent, sizes/dimensions, surface roughness, values, fixing methods. A3 Processes Types of engineering processes: • cutting, e.g. drilling, sawing, filing, shearing • shaping, e.g. turning, milling • forming, e.g. forging, casting, extruding, moulding, folding, bending • joining, e.g. fastening, bonding, soldering, brazing</p>
Assessment / Feedback Opportunities	<p>Cold calling to check for understanding. Visual check on note taking. Verbal formative and summative feedback.</p>
Cultural Capital	<p>Pupils develop understanding of Engineering sectors and roles involved.</p>
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<p>Patience and tolerance of others whilst following social distancing rules. Career opportunities that are available to diligent pupils.</p>
Reading opportunities	<p>Reading research on Engineering sectors and organisations.</p>
Key Vocabulary	<p>Engineering, aerospace, automotive, communications, electrical/electronics, mechanical, environmental, transport, rail and marine</p>
Digital Literacy	<p>Use internet to help research.</p>
Careers	<p>Pupils develop knowledge of the following engineering sectors and the roles included; aerospace, automotive, communications, electrical/electronics, mechanical, environmental, transport, rail and marine.</p>