

Meden School Curriculum Planning							
<b>Subject</b>	CNAT Engineering Design	<b>Year Group</b>	Y11	<b>Sequence No.</b>	3	<b>Topic</b>	RO38 – Topic Area 2

Retrieval	Core Knowledge	Student Thinking
What do teachers need <b>retrieve</b> from students before they start teaching <b>new content</b> ?	What <b>specific ambitious knowledge</b> do teachers need teach students in this sequence of learning?	What real life examples can be applied to this sequence of learning to <b>development of our students thinking, encouraging them to see the inequalities around them</b> and ‘do something about them!’
<p>The following knowledge and understanding should be retrieved:</p> <p><input type="checkbox"/> Students will have made use of ACCESSFM during the RO40 assignment and so this knowledge should be retrieved from that work.</p> <p><input type="checkbox"/> Students will be familiar with a variety of materials and starting making with them from their ‘stock form’ state. Retrieve this knowledge and understanding as a basis for the wider understanding of stock forms.</p>	<p>The following ambitious knowledge needs to be taught:</p> <p>2.1</p> <p><input type="checkbox"/> Know the reasons for the various elements of ACCESSFM being included in a products design specification.</p> <p><input type="checkbox"/> Know the difference between needs and wants in relation to a design specification.</p> <p><input type="checkbox"/> Know the difference between, and be able to give example of, both quantitative, and qualitative criteria within a design specification.</p> <p>2.2</p> <p><input type="checkbox"/> Know the difference between the scales of manufacture, (one-off, batch and mass)</p> <p><input type="checkbox"/> Know how production facilities and staffing skill levels may differ between facilities design for production and the various scales.</p> <p><input type="checkbox"/> Know examples of products produced within each of the scales of production.</p> <p><input type="checkbox"/> Know the typical stock form in which materials can be available.</p> <p><input type="checkbox"/> Know types of manufacturing processes across the group types of wasting, shaping, forming, joining, finishing and assembly.</p> <p><input type="checkbox"/> Know how production costs are impacted by issues such as labour and capital costs,</p> <p>2.3</p> <p><input type="checkbox"/> Know, understand and be able to give examples of market pull, and technology push.</p>	<p><input type="checkbox"/> Discuss the benefits and disadvantages of ‘off shore manufacturing’. Students consider its impact on society and develop their own thoughts on the extent to which they support it.</p>

<p><input type="checkbox"/> Students will have seen quality marks such as the British standard Kite mark and the European CE mark but may not have understood their significance. Use this familiarity as a basis for their more detailed understanding of quality standards.</p> <p><input type="checkbox"/> If students are studying GCSE D&amp;T they will have encountered the six R's by this point and the commonality of this area of knowledge should be highlighted.</p>	<p><input type="checkbox"/> Know of the existence of, purpose and impact of various quality standards such as British Standards (BS), United Kingdom Conformity Assessed (UKCA) etc.</p> <p><input type="checkbox"/> Know of the key pieces of legislation impacting the workplace, (H&amp;S at Work Act 1974, etc).</p> <p><input type="checkbox"/> Know the meaning of, the purpose of, and a variety of examples of planned obsolescence.</p> <p><input type="checkbox"/> Know and be able to apply the six sustainability R's of Rethink, Reuse, Recycle, Repair, Reduce and Refuse.</p> <p><input type="checkbox"/> Know the meaning of, benefits of, and methods for establishing/designing for the circular economy.</p>	<p><input type="checkbox"/> Discuss the responsibilities they will have under this legislation as soon as they enter the workplace. Discuss how they ought to respond if they find themselves in a position where their employer is not fulfilling their responsibilities under this legislation.</p> <p><input type="checkbox"/> Discuss the moral rights and wrongs of design for obsolescence, and how consumers can impact the behaviours and attitudes of companies.</p>
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<b>Tier 2 Vocabulary</b>	<b>Tier 3 Vocabulary</b>
<p>Specification Quantitative Qualitative Criteria Facilities Legislation</p>	<p>ACCESSFM Stock Forms British Standards Kite Mark CE Mark Six R's Labour Costs Capital Costs Wasting Market Pull Technology Push United Kingdom Conformity Assessed Planned Obsolescence Circular Economy</p>