

# Year 10 Product Design Medium Term Plan

Unit	Duration (lessons)	Learning Objectives/Outcomes
Lighting – Design brief, ideas & modelling	13	<ul style="list-style-type: none"> <li>• Investigate, analyse &amp; evaluate the work of past and present designers / companies.</li> <li>• Be able to use primary &amp; secondary data to help understand the needs of your user, such as ergonomics &amp; anthropometric data.</li> <li>• Be able to create your own design briefs &amp; design specifications based on your on-going research</li> <li>• Use design strategies to produce creative ideas</li> <li>• Explore how a variety of materials can be transformed from their original standard form into complex shapes.</li> <li>• Develop your 3D sketching skills to communicate ideas such as isometric &amp; perspective techniques.</li> <li>• Use annotation to show design thinking</li> <li>• Develop 2D &amp; 3D CAD skills to model &amp; improve ideas</li> <li>• Select appropriate materials for final idea based on their material properties.</li> <li>• Test ideas to demonstrate that they are viable and will work well.</li> <li>• Gain technical knowledge in new &amp; emerging technologies such as - how they have changed the way in which we live &amp; how they continue to shape the modern world, that new technologies need to be developed &amp; produced in a sustainable way, how technology push &amp; market pull affect consumer choice &amp; employment, understand different manufacturing systems and the potential use of automation, know the advantages &amp; disadvantages of planned obsolescence from different perspectives and how product can be designed to be repaired and recycled.</li> <li>• Gain technical knowledge in energy generation, modern &amp; smart material, composite materials &amp; textiles, electronic systems &amp; mechanical devices</li> </ul>
Lighting – material selection & manufacture	11	<ul style="list-style-type: none"> <li>• Further develop communication skills such as the use of exploded &amp; working drawings to show how your ideas can be made.</li> <li>• Be able to explain how your prototype satisfies the needs of your user in terms of – functionality, aesthetics and potential marketability.</li> <li>• Explore how products have environmental &amp; social impact on the world and how designers can design for this.</li> <li>• Learn how to choose materials based on functionality, cost &amp; availability.</li> <li>• Produce final plans for lamp – manufacturing specification</li> </ul>

		<ul style="list-style-type: none"> <li>• Be able to produce final outcomes accurately using tolerances and quality control.</li> <li>• Commence Final manufacture of product.</li> </ul>
<p>Lighting – Final assembly</p> <p>Commence Non exam assessment (NEA) – Identify &amp; investigate design possibilities</p>	13	<ul style="list-style-type: none"> <li>• Explore different surface finishes and be able to explain how they benefit the product</li> <li>• Final assembly of lighting prototype</li> <li>• Test final product, evaluate and make suggestions on how it could be improved.</li> <li>• Investigate how &amp; which type of products is manufactured – one offs, batch, mass &amp; continuous production.</li> <li>• Introduce controlled assessment – understand how to meet all assessment objective requirements</li> <li>• Research design brief and select a variety of sources to help research the task. Analyse findings and produce a design criteria suitable for their chosen client</li> <li>• Analyse existing products to gain knowledge on how other designers have solved the problem.</li> <li>• Using a planned design strategy and inspiration, create imaginative ideas using a variety of communication &amp; modelling skills</li> </ul>