

# Design & Technology Curriculum Map Year 11

Term	Unit of Study	Curriculum Guidelines	NC –Aims / Focus Points
Autumn 1	<b>Develop and demonstrate designing skills</b>	<p>(AO2) Provides an appropriate, detailed and considered response to a brief and produces a thorough specification for a product as a result of analysis.</p> <p>(AO2) Produces a comprehensive range of creative and original ideas and communicates these by using designs using appropriate strategies.</p> <p>(AO2) Uses detailed drawing and annotation to communicate consistently all details of the design chosen for production</p>	<p>Use appropriate recording and drawing techniques.</p> <p>Identify complex associations linking principles of good design and technological knowledge.</p> <p>Produce a creative and considered response to a design brief.</p> <p>Produce a detailed specification for the product.</p> <p>Use detailed notes and annotated drawings to record original design ideas.</p> <p>Use appropriate modelling or trialling techniques to aid product development.</p> <p>Use ICT/CAD/CAM to support design development.</p> <p>Apply knowledge of digital media and new technologies as appropriate.</p> <p>Use drawing and annotation to clearly communicate details of the design chosen for prototype production.</p>
Autumn 2	<b>Demonstrate good making/workshop skills</b>	<p>Plans and organises complex activities. • Selects and uses materials that are consistently appropriate.</p> <p>(AO2) Selects and uses hand and machine tools that are</p>	<p>Plan, organise and record key manufacturing activities by means of comprehensive notes and photographic evidence.</p> <p>Make reasoned decisions</p>

		<p>consistently appropriate. (AO2) Works safely, skilfully and competently to shape, form, assemble and finish materials and components to achieve a high quality 3D product. (AO2) Consistently selects and uses workshop facilities appropriately to realise a 3D product using resistant materials. (AO2) The product is completed to a high quality and fully meets the requirements of the final product specification. (AO2) Records key stages involved in the making of the product, by providing comprehensive notes and photographic evidence. (AO2/AO3) Demonstrates a thorough practical understanding and ability in solving technical problems effectively and efficiently as they arise.</p>	<p>about materials/components. Select appropriate materials. Select appropriate tools and equipment. Work skilfully and safely to shape, form, finish materials and assemble components/ingredients. Apply knowledge of systems and control, ICT and new technologies as appropriate. Complete the product to a high-quality standard. Demonstrate a practical and thorough understanding and ability in solving technical problems effectively and efficiently as they arise.</p>
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<p>Spring 1</p>	<p><b>Demonstrate good making/workshop skills</b></p> <p><b>Quality</b></p>	<p>(AO2) Selects and uses hand and machine tools that are consistently appropriate.</p> <p>(AO2) Works safely, skilfully and competently to shape, form, assemble and finish materials and components to achieve a high quality 3D product.</p> <p>(AO2) Consistently selects and uses workshop facilities appropriately to realise a 3D product using resistant materials.</p> <p>(AO2) The product is completed to a high quality and fully meets the requirements of the final product specification.</p> <p>(AO2) Records key stages involved in the making of the product, by providing comprehensive notes and photographic evidence.</p> <p>(AO2/AO3) Demonstrates a thorough practical understanding and ability in solving technical problems effectively and efficiently as they arise.</p> <p>(AO2) Apply knowledge, understanding and skills in a variety of contexts and in</p>	<p>Plan, organise and record key manufacturing activities by means of comprehensive notes and photographic evidence.</p> <p>Make reasoned decisions about materials/components. Select appropriate materials. Select appropriate tools and equipment. Work skilfully and safely to shape, form, finish materials and assemble components/ingredients. Apply knowledge of systems and control, ICT and new technologies as appropriate. Complete the product to a high-quality standard. Demonstrate a practical and thorough understanding and ability in solving technical problems effectively and efficiently as they arise.</p> <p>Distinguish between quality of design and quality of manufacture. Show how the quality of a product may be affected by the selection of materials and processes used in manufacture. Understand the importance of</p>
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		<p>designing and making products. Understanding and skills in a variety of contexts and in designing and making products.  (AO1) Recall, select and communicate their knowledge and understanding in Design and Technology including its wider effects</p>	<p>dimensional accuracy in component parts of an assembly.  Explain the need for, and application of, tolerances on working drawings.  Describe simple quality control checks to ensure accuracy and quality of finish.</p>
<p>Spring 2</p>	<p><b>Demonstrate critical evaluation skills</b></p>	<p>Plans and organises complex activities. Selects and uses materials that are consistently appropriate.  (AO2) Selects and uses hand and machine tools that are consistently appropriate.  (AO2) Works safely, skilfully and competently to shape, form, assemble and finish materials and components to achieve a high quality 3D product.  (AO2) Consistently selects and uses workshop facilities appropriately to realise a 3D product using resistant materials.  (AO2) The product is completed to a high quality and fully meets the</p>	<p>Evaluate the product against the specification.   Undertake detailed testing and present meaningful conclusions. Casting, injection moulding and extrusion.  Systems and control – understand the purpose (and use as appropriate) of jigs, fixtures, templates and patterns to control accuracy in the batch production of products.</p>

		<p>requirements of the final product specification.  (AO2)Records key stages involved in the making of the product, by providing comprehensive notes and photographic evidence.  (AO2/AO3)Demonstrates a thorough practical understanding and ability in solving technical problems effectively and efficiently as they arise.</p>	
<p>Summer 1</p>	<p><b>Tools and equipment</b></p> <p><b>Pre-manufactured components</b></p> <p><b>Health and safety</b></p>	<p>AO2 Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.</p> <p>AO2 Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.</p> <p>AO2 Apply knowledge, understanding and skills in a variety of contexts and in designing and making products. products.</p>	<p>Knowledge and understanding of basic equipment; how to select the appropriate tool and use it safely and effectively.  Awareness of alternative tools and equipment which can be used for the same task.  The safety checks to carry out on electrical equipment before use  Checks before use, including correct settings on machines such as lathes, milling machines and pillar drills.  Understand the responsibilities of designers to ensure the safe manufacture and safe use of products</p>

			<p>Components needed in the manufacture of a product. Candidates should be able to identify and suggest an application for a wide range of pre-manufactured components, including: - screws, nails, nuts and bolts - knock down fittings and how they are used in furniture production, including flat pack design – including single and two piece blocks, scan fitting, cam lock, leg plate and dowel - hinges, catches, drawer slides, knobs, locks, etc.</p> <p>Understand the importance of personal safety when engaged in designing and making activities, including: - personal protective equipment - machine guards - dust and fume extraction - waste disposal - accident procedures.</p> <p>Understand basic risk assessment.</p> <p>Understand COSHH in the context of workshop and studio activities.</p> <p>Recognise and understand</p>
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			safety symbols used in the workshop.
<b>Notes*****</b>			