

Design & Technology Module: Graphics				
Year 9				
	Topic / Theme	Knowledge and Skills	Assessment	Cultural Capital Independent Learning
Autumn – Term One	<p>Project: AMP design</p> <p>This is the first project in the Graphics Yr9 Module. Students will build advanced design skills in preparation for KS4 technology subjects. The AMP design to follow the full design process utilising different and wider hand drawing and CAD strategies. Students will use a detailed design specification to produce a wide range of different initial ideas for a mobile amplifier. This then leads on to the development of 6 detailed chosen design drawings using advanced hand drawing techniques including tone and texture and thick and thin line. Annotation of each design will demonstrate students understanding of different component parts. With ICT facilities orthographic and 3D CAD presentations will be produced</p>	<p>Designing:</p> <p>Investigation into good design that meet the needs of different users / markets. Existing designs of Amp products explored for different users / markets. Isometrics and orthographic techniques. Thick and thin line application. Rendering, shade and tone and application of texture. Initial design ideas for evaluation - Design development. Detailed specification criteria generated. Brainstorming - biomimicry - design influence. 3D and 2D hand drawings with detailed notes. 2D and 3D CAD design generation. Design ideas are generated & presented using a range of formats including ICT with annotated sketches. D1, D2, D3, D4, D5</p> <p>Making:</p> <p>Students will produce a development sketch model using a range of graphics tools and equipment. Net shape</p>	<p>F = Foundation C = Core A = Advanced E = Exceptional</p> <p>Design Assessment Criteria coverage</p> <p>F Produce some ideas that address some user needs. Designs show some accuracy & use of instruments. <i>Some 2d / 3d / ICT methods & use of shade & labelling / annotations</i></p> <p>C Produce a range of different ideas to meet user needs & specification points. Mainly accurate designs with use of instruments. <i>2d / 3d / ICT methods used appropriately. Use of shade / tone & appropriate labelling / annotations</i></p> <p>A Produce a range of suitable ideas based on research to meet different user needs / specification points. Accurate use of a range of instruments. A wide range of 2d / 3d / ICT methods used with effectiveness. <i>Use of shade, tone, texture to demonstrate aesthetics & some reference</i></p>	<p>This module of learning activities presents experience of high level design presentation skills to meet the needs of different users. Students are encouraged to understand how other cultures, the beliefs and views of others affect the way products and services are designed. They are taught to reflect on the users of products and how users' views, beliefs and social-economic status affect the way products are designed, and why. Students will learn the advantages of and how to use high tech computer equipment. They will develop an understanding of how everyday products are manufactured in industry, and the types of pathway and employment that exist within these sectors. In the Yr9 Graphics module, enrichment of knowledge in a design context following the full design process that mimics that used by professional designers. Tasks within the curriculum encourage the use of a wide range of designing skills in preparation for</p>

	<p>using advanced CAD tools. The final design will address all specification points effectively and efficiently.</p> <p>Topics / Themes addressed <i>Hyperlink to topics</i></p> <p>D1 – Designing: Research & Exploration.</p> <p>D2 – Designing: Identifying & solving design problems:</p> <p>D3 - Developing specifications</p> <p>D4 & D5 – Designing: Design approaches & communicating designs.</p> <p>M1 Making: Using Specialist tools, equipment, techniques, processes</p> <p>M2 Making: Selecting and using materials</p>	<p>development will be used building upon previous learning of model making techniques. Modifications following assessment opportunities will take place M1.</p> <p>Evaluate: Students will analyse past and present Amp designs and those related to similar products. 3D design generation and 3D printing and modern manufacturing techniques. Evaluation against the specification criteria. Sustainability - environmental impact - LCA. Self / peer assessment at key points. E1, E2, E3, E4</p> <p>Technical Knowledge: Students will further knowledge of Material selection appropriate and effective for use. Technical learning of higher level 2D and 3D CAD development of ideas including industry standard drawing presentation techniques. TK1, TK4.</p>	<p><i>to ergonomics relevant to the user & appropriate labelling / annotations</i></p> <p>E <i>Produce a range of appropriate ideas based on research to fully meet different user needs / specification points</i> <i>Accurate use of a range of instruments.</i> <i>A wide range of 2d / 3d / Appropriate ICT methods used with effectiveness.</i> <i>Use of shade, tone, texture to demonstrate aesthetics & fully considers ergonomics relevant to the user with appropriate labelling / annotations</i></p> <p>Formative assessment of Designing LED Lamp Designs Models</p> <p>Making Assessment Criteria coverage</p> <p>F <i>Minimal assistance</i> <i>Product mostly complete.</i> <i>Some skill in the use of tools & equipment & some use of CAM</i> <i>Some marking out Minor inaccuracies</i> <i>Some creativity</i></p> <p>C <i>Works independently</i> <i>Product completed and functions.</i> <i>Appropriate planning.</i> <i>Competent level of skill in the use of most tools & equipment & appropriate use of CAM</i></p>	<p>KS4, which are designed to appeal to girls in particular to address issues of gender stereotyping and encourage future pathways and employment in areas with gender disparity.</p> <p>In the Yr9 Graphics module, enrichment of knowledge in a design context is achieved using a variety of methods and solutions including the study of past and present designers.</p> <p>Students will develop an understanding of how research and the development of technical knowledge is crucial in an increasingly technological world. Students will gain an awareness of how the designs and work of individuals influence and reflect society, different cultures and social economic groups. Within the Yr9 Engineering module, enrichment of technical knowledge is achieved through studies in areas such as material types and properties, with studies into effects on the environment.</p> <p>Technology extra-curricular clubs provide experiences beyond the home and allow students to develop specific skills and more in-depth knowledge alongside the normal Technology curriculum.</p> <p>Research into concepts, the environment, cultures and the work of past and present designers and their achievements, will develop the</p>
--	--	--	---	--

	<p>E1 – Evaluate: Analysing the work of past & present professionals.</p> <p>E2 – Investigating new and emerging technologies.</p> <p>E3 – Evaluate: Testing and Evaluation</p> <p>TK1 - Selecting, understanding and using materials.</p> <p>TK2 – Understanding more advanced mechanical systems.</p> <p>TK3 – Understanding ,more advanced electronic systems.</p>		<p><i>Mostly accurate marking out with limited inaccuracies</i> <i>Good levels of creativity.</i></p> <p>Sound level of skill in the use of tools & equipment & appropriate use of CAM A <i>Able to plan sequential activities and use plan to manufacture. Works independently</i> <i>Product fully completed with additional features and materials.</i> <i>High level of skill in the use of a range of tools & equipment, including specialist equipment & effective CAD / CAM application</i> <i>Accurate marking out Highly accurate & innovative products</i> <i>High level of creativity & innovation.</i> E <i>Able to plan activities in order of effective staging with timings. Works independently</i> <i>Product fully completed with additional features and materials used in terms of appropriate properties.</i> <i>High level of skill in the use of a range of tools & equipment, including specialist equipment & effective CAD / CAM application</i> <i>Accurate marking out Highly accurate & innovative products</i> <i>High level of creativity, innovation & ingenuity.</i></p>	<p>students’ understanding of their own potential and the measures, skills and knowledge necessary to succeed. Design & Technology will allow students to develop some understanding of Britain’s contemporary design practice and design heritage, as well as a knowledge of international design practice. We encourage wider reading and the exploration of academic theory in order to investigate concepts. Students are expected to create and develop designs and ideas independently with varying degrees of innovation and flair. They will develop problem solving skills through independent learning in both a design and practical context, which will enrich the potential of all students by expanding their understating of the world of design.</p>
--	---	--	---	--

			<p>Formative assessment of Making LED Lamp</p> <p><u>Evaluating Assessment Criteria coverage</u></p> <p>F <i>Able to evaluate products against some specification points and suggest improvements.</i></p> <p>C <i>Able to evaluate products against a range of specification points and suggest how designs could be improved to meet user needs and further needs.</i></p> <p>A <i>Able to evaluate products against a range of criteria & specification points and use some methods of testing a product and evaluate how they were used to improve a product to meet user needs. Able to use analysis to improve product outcomes.</i></p> <p>E <i>Able to evaluate products against a range of criteria & specification points and use effective methods of testing a product and evaluate how they were used to improve a product to meet user needs. Able to use analysis of testing & research (design Cycle stages) to improve product outcomes.</i></p> <p>Formative assessment of Evaluating</p>	
--	--	--	--	--



			Product analysis Evaluation of LED Lamp	

JSTC



ALFORD

Curriculum Map