



Key Stage 5 Design and Technology Curriculum Maps

Intent of Design and Technology Curriculum at Littleover Community School.

At Littleover Community School, Design and Technology is an inspiring, innovative and practical subject. Using creativity and imagination, students design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Students learn how to take risks independently and as part of a team, becoming resourceful, innovative, enterprising, and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. The provision of Design and Technology at Littleover Community School aims to ensure that all students access the main strands of RESEARCH, DESIGN, MANUFACTURE, EVALUATION and TECHNICAL KNOWLEDGE through a variety tasks.

In Year 12 and 13, students will be given one theory focussed lesson and a second focussed IS lesson.

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	PRODUCT DESIGN & FASHION & TEXTILES																																						
YEAR 12	Topic – Intro to PD (PD & F&T Festival Mini Project) S – Sketching skills and techniques. P – Use of freehand sketching techniques to communicate and develop a range of ideas in response to a given brief. Sk – Understanding how to produce a wide range of hight					Topic – Product Styling (PD -Craft Knife Project) (F&T – Historical Influence garment) S – Sketching skills and techniques. CAD skills using Adobe Photoshop P – Use of freehand sketching techniques to communicate a					Topic – Product Styling (PD -Homeware Project) (F&T – Apron) S – Sketching skills and techniques. CAD skills using Adobe Photoshop. Design History. P – Use of freehand sketching techniques to communicate a range of ideas in					Topic – Designing & Modelling (PD - Public Seating Project) (F&T – Uniform) S – Sketching skills and techniques. CAD skills using Adobe Photoshop. Modelling skills using a range of techniques and materials. P – Use of freehand sketching techniques to communicate a range of ideas in response to a give brief. Developing design concepts using 3D modelling					Topic – Iterative Design (PD -Pizza Cutter Project) (F&T – Oven Gloves) S – Sketching skills and techniques. CAD skills using Adobe Photoshop. Modelling skills using a range of techniques and materials. P – Use of freehand sketching techniques to communicate a range of ideas in response to a give brief. Developing design skills to compliment design					Topic – Designing & Prototyping (PD & F&T - Educational Toy Project) S – Sketching skills and techniques. CAD skills using Adobe Photoshop. One-off or batch production manufacture skills using a range of tools and processes. P – Use of freehand sketching techniques to communicate a range of ideas in response to a give brief. Developing design					Topic – NEA Investigating the Context S – Context, Mind Map, Primary User, Stakeholders, Questionnaire P – Use the initial 3 contexts to fully explore the issues and identify areas for development and a Primary User for their NEA. Also identify any stakeholders who could								

	quality designs. Understanding of the design process. Assessment – Verbal feedback and grade in line with NEA standards.	range of ideas reflecting a given style. Use of Photoshop to render and communicate colour and form of designs. Sk – Understanding how to produce a wide range of high quality designs working towards being presented to a professional standard. Assessment – Verbal feedback and grade in line with NEA standards.	each style. Researching design history and presenting in an extended written form. Sk – Understanding how to produce a wide range of high quality designs reflecting a given style. Understanding the impact of products and design movements on design and society. Assessment – Verbal feedback and grade in line with NEA standards.	skills to compliment design work. Sk – Understanding how to produce a wide range of high-quality designs that respond to user needs and wants. Development of practical modelling skills to help advance design concepts. Assessment – Verbal feedback and grade in line with NEA standards	work in an iterative manner that responds to user and stakeholder feedback Sk – Understanding how to utilise a wide range f complimentary design skills in an iterative manner. Taking onboard user and stakeholder feedback in a reflective and responsive way. Assessment – Verbal feedback and grade in line with NEA standards	concepts using 3D modelling skills to compliment design work in an iterative manner that responds to user and stakeholder feedback. Progressing developed design concepts to a high-quality appearance prototype. Sk – Understanding how to utilise a wide range f complimentary design skills in an iterative manner. Taking onboard user and stakeholder feedback in a reflective and responsive way. Understanding appropriate tool and processes to use in the workshop to progress a developed design to a high-quality physical outcome. Assessment – Verbal feedback and grade in line with NEA standards	also be affected by the project. Sk – Recognising successful potential projects with enough complexity and scope and opportunities to produce a successful prototype for the NEA. Assessment – Work is checking by staff using the O: drive to access the work. Verbal feedback given and progress recorded on Excel sheet using a RAG rating.
	ITERATIVE DESIGN PROJECT						

YEAR 13	Topic – Research S – Ergonomics, Anthropometrics, Ethical and Socials issues, Product Analysis, Materials and Processes. P – Use a variety of research methods to fully investigate the needs and wants of the Primary User and Stakeholders. Sk – Understanding the outcomes of the research and how it relates to their project and will influence their NEA. Assessment – Work is checking by staff using the O:drive to access the work. Verbal feedback given and progress recorded on Excel sheet using a RAG rating.	Topic – Initial Ideas and Modelling S – Iterative Design, User feedback, CAD, CAM P – Use if freehand sketching to communicate a wide range of initial ideas. Use of CAD and simple 3D modelling to develop ideas further and allow detailed feedback from the Primary User. REMINDER – all must use CAD/CAM somewhere in development. Sk – Understanding that a wide range of ideas are required for the NEA and not to be fixated on one design. Feedback from the Primary User will help selection/rejection process to show clear iterative development with	Topic – Development of a Final Design and Cutting list S – Technical Specification, Plan of Manufacture, Cutting List P – Use CAD to produce a final lay plan or net/orthographic drawing of their final design including dimensions and material selection. Use the final design details to produce a cutting list which can be used by the technician to order and prepare materials for the next stage. Sk – Understanding that the Technical Specification will be used by a third party to order and cut materials and mistakes will	Topic – Manufacture S – Use of techniques and processes to achieve desired outcomes of manufacture P – Students need to know how to employ differing techniques and processes to fabricate, construct and assemble a final working prototype making appropriate use of materials and components Sk – Students can demonstrate their skills and knowledge through their safe, effective and accurate use of hand tools, machinery, digital design and digital manufacture Assessment – Work is checking by staff using the O:drive to access the work. Verbal feedback given and progress recorded on Excel sheet using a RAG rating.	Topic – Evaluation and Testing S – Comparison to technical specification, marketability, use of analysis and feedback, analysis and testing of product and critical evaluation identifying strengths and weaknesses suggesting modifications. P – Students need to show relevant analysis of primary and secondary sources and effective ongoing evaluation throughout the project. They need to show real time analysis and testing of the final prototype against the technical and stakeholder requirements. They need to use suitable and effective methods of testing and how to identify weaknesses and strengths of their final product. Sk – Analyse and evaluate data, analyse, and test the final product and effectively identify strengths and weaknesses to be then able to suggest modifications and further iterations to improve their design. Assessment – Work is checking by staff using the O:drive to access the work. Verbal		
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		decisions fully annotated. Assessment – Work is checking by staff using the O:drive to access the work. Verbal feedback given and progress recorded on Excel sheet using a RAG rating.	cause delays to the manufacture. Assessment – Work is checking by staff using the O:drive to access the work. Verbal feedback given and progress recorded on Excel sheet using a RAG rating.		feedback given and progress recorded on Excel sheet using a RAG rating.		
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