

Further information on the Overview element for curriculum development: Product Design 3D / Three Dimensional Design

Aims KS3:

The 4 R's are embedded in our curriculum at all key stages. Student's Resilience to feedback develops throughout the course of study and their open mindedness to researching different cultures and beliefs through design, working to a design brief develops problem solving skills and the ability to work independently. They have opportunity to work in well facilitated classrooms, Respecting their environment and the space and time they are given. They are encouraged to be proud and share ideas, offering Responsible feedback for their peers. We have an open door policy after school to enable students to revisit work or contribute further to their projects to enable them to be Ready to learn and continue their studies with confidence.

- All pupils must understand the correct health and safety procedure for / when using dangerous equipment.
- To develop skills in the following:-
- The correct safety procedures and use of Citizenship in the workshop
- To be able to recognise different materials and their uses
- To be able to use tools and machines appropriate for the given project
- To be able to recognise design constraints, user needs when designing and making a product
- To understand what a design specification is and how it is relevant to specific products
- Produce final designs as a result of peer and self-assessment; making informed decisions and modifications
- To understand the difference between types of plastics and recognising recyclable and non-recyclable products
- They will be able to present ideas effectively
- To develop skills in research, product analysis, specification, planning, designing, manufacture and evaluation.
- To develop skills using various tools and equipment by carrying out a range of practice tasks.
- To develop a knowledge of finishes and how they are applied to a range of materials and products.
- To develop skills to prepare pupils for further education in product Design at GCSE level, skills can also be implemented into other subjects in particular Graphic Communication, Textiles, and Food Technology. As well as the skills relevant to the subject pupils gain a variety of life skills which can be recalled up when they enter a real working environment.

Sequencing KS3:

The sequence of topics for each year follows the design process that links to the manufacture of a product in industry. Each year follows the Design, Make and Evaluate format. Pupils should be able to develop design, practical and social skills throughout the sequence of topics taught. Pupils must show that they can understand how to work safely in a workshop environment, this is recapped at the start of each topic. Pupils develop knowledge of different materials, cutting techniques and finishing, each topic incorporates skills from the previous year to give a more complex and challenging outcome. Design strategies are introduced and developed throughout, these strategies will relate to those used in industry showing the progression from sketching to the use of CAD. Pupils will develop the understanding of modelling techniques by producing design templates and cutting practice, these skill will be used in each topic to give pupils

an understanding of why and how to produce an accurate outcome. Pupils start with basic making skills and develop them across the projects to more complex construction methods. Pupils will evaluate work as they progress through each project, this gives an opportunity to recap, review and improve their work through follow up tasks. Pupils will complete a final evaluation that will enable them to make decision as to how they approach the next topic or subject taught in Design.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Suggested Revision Website	Exam Board Link	Recommended Revision Guide
KS3	Rotation 1			Rotation 2					
Year 7	Clipboard Project. Material recognition. Health & Safety. Developing design ideas. Template production. Marking out techniques.	Clipboard Project. Practice cutting techniques. Recognise and use tools to cut and shape Plywood.	Clipboard Project. Final construction of product. Applying finishes. Evaluation	Clipboard Project. Material recognition. Health & Safety. Developing design ideas. Template production. Marking out techniques.	Clipboard Project. Practice cutting techniques. Recognise and use tools to cut and shape Plywood.	Clipboard Project. Final construction of product. Applying finishes. Evaluation	http://www.technologystudent.com/		
Year 8	Mobile Phone Stand Project. Material recognition. Health & Safety. Plastics. Developing design ideas. Template production.	Mobile Phone Stand Project. Practice cutting techniques. Recognise and use tools to cut and shape Plywood	Mobile Phone Stand Project. Final construction of product. Testing. Applying finishes. Evaluation	Mobile Phone Stand Project. Material recognition. Health & Safety. Plastics. Developing design ideas. Template production.	Mobile Phone Stand Project. Practice cutting techniques. Recognise and use tools to cut and shape Plywood.	Mobile Phone Stand Project. Final construction of product. Testing. Applying finishes. Evaluation	https://www.bbc.co.uk/bitesize/topics/zhv8q6f/resources/1 https://www.bbc.co.uk/bitesize/topics/zi63cdm/resources/1 http://www.technologystudent.com/		

	Marking out techniques.			Marking out techniques.					
Year 9	Jewellery Box Project. Material recognition. Health & Safety. Plastics. Hardwoods and Softwoods. Isometric Drawings. Exploded Views. Joint Recognition.	Jewellery Box Project. Marking out. Cutting techniques. Recognise and use tools to cut and shape Pine. Fixing Methods. Joint construction.	Jewellery Box Project. Final construction of product. CAD/CAM Applying finishes. Evaluation	Jewellery Box Project. Material recognition. Health & Safety. Plastics. Hardwoods and Softwoods. Isometric Drawings. Exploded Views. Joint Recognition.	Jewellery Box Project. Marking out. Cutting techniques. Recognise and use tools to cut and shape Pine. Fixing Methods. Joint construction.	Jewellery Box Project. Final construction of product. CAD/CAM Applying finishes. Evaluation	https://www.bbc.co.uk/bitesize/topics/zhv8q6f/resources/1 https://www.bbc.co.uk/bitesize/topics/zi63cdm/resources/1 http://www.technologystudent.com/		

Aims KS4:

- Pupils build on their skills from key stage 3 when creating their design brief project led tasks within the early parts of key stage 4.
- They will analyse a range of artists, designers and companies to enable them to produce work in the style of their work.
- To be able to create a collection of design ideas reflecting a design brief using the influence of others to produce a quality outcome
- They will explore with a variety of media to allow them to make informed choices later on in the GCSE course.
- To develop an understanding of 2D Design software to enable the production a range of creative and professional designs to be manufactured on the laser cutter.
- To understand how to from opinions and analyse the work of others
- To show an understanding of a brief
- To be able to record ideas
- To be able to import picture and manipulate them in 2D Design
- To be able produce Jewellery using Pewter Casting
- To understand and use metal joining techniques

- To be able to develop an idea in to a final outcome
- To understand key terms
- To show an understanding of target markets
- To develop drawing skills and techniques including layout and light boxing
- Independently select and analyse contextual sources to aid the development of ideas
- Explore appropriate media linking to research
- Be able to analyse the work of others through practical investigation
- Develop ideas leading to a personal response
- Present a personal response showing evidence of links to contextual sources studied
- Pupils will produce a collection of work to develop and apply their skills within key areas of the GCSE learning outcomes
- To be able to show key stages in the process of making, recording information through photography and annotation
- Analyse and review their own work and show that they know how work can be developed and improved to make it more successful

Sequencing KS4:

Pupils build on skills from the key stage 3 curriculum by using a range of analytical skills to inform their ideas. They complete 3 mini projects at the start of year 10, allowing pupils to demonstrate a range of skills including presenting a GCSE portfolio and a developing understanding of assessment objectives. After the initial 3 projects students are introduced to an extended project which will form a major part of their coursework portfolio. During this project pupil's show progression with their artist's research by analysing artist/designers and companies in more depth, giving more complex opinions about the artist's/designers work and how this can influence their own ideas. Pupils create a variety of reproductions to investigate a broad range of media choices working in the style of the artist/designer and as a result of this produce responses responding to the given project briefs. CAD/CAM skills and a range of methods of fixing materials together are learnt within the starting part of the project to create opportunities to produce high quality, in depth outcomes. Pupils develop a range of strategies to improve their drawings skills, this then supports the development of their design ideas ready for a final outcome. They are able to reflect on their initial ideas and realise intentions, producing a personal response to the project theme.

The departments approach to the coursework will then equip the pupils to approach the Externally Set Assignment upon its release in the January of year 11, approaching it using the same structure that was embedded during the extended coursework portfolio project.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Suggested Revision Website	Exam Board Link	Recommended Revision Guide
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KS4									
Year 10	Cardboard Sculptures Project & Jewellery Design: Design Brief Common trends/Artist research Sample Making Design ideas for Final Piece Modelling Techniques Final Piece Present and evaluate	Jewellery Design & Art Deco Clock Project: Design Brief Common trends/Artist research Sample Making Design ideas for Final Piece Modelling Techniques Final Piece Present and evaluate	Main coursework project. Students continue research, producing reproductions and design responses linked to this and their chosen brief.	Main coursework project. Students continue research, producing reproductions and design responses linked to this and their chosen brief.	Main coursework project. Students continue research, producing reproductions and design responses linked to this and their chosen brief.	Main coursework project. Students continue research, producing reproductions and design responses linked to this and their chosen brief.	http://www.technologystudent.com/gener/inkspg1.htm https://www.pinterest.co.uk/Aldridgeart/	https://www.aqa.org.uk/subjects/art-and-design/gcse	
Year 11	Complete designer research and produce design ideas and 3D experiments for a final product or outcome.	Final outcome production. This is completed in the hour mock exam time and the main coursework project is handed in when student leave for the Christmas break	Externally set task. Exam board release a selection of starting points. Students select one and begin research.	Externally set task project. Students continue research, producing reproductions and responses linked to this and their chosen theme.	Externally set task project. Final idea development. Students produce final outcome for the externally set task in 10 hour controlled time	Re-visit main coursework project to ensure ready for moderation process.	http://www.technologystudent.com/gener/inkspg1.htm https://www.pinterest.co.uk/Aldridgeart/		