Weatherhead High School
World Class Curriculum

KS3 Curriculum Overview

Subject Area:

Description of KS3 Curriculum:
The projects may be taught in a different order to those listed below due to availability of resources. **The curriculum focuses on allowing the students to work with the 3 main material areas of wood, metal and plastics. In addition to this, students develop card modelling, graphical and skills using various compliant materials according to the project choices they make.** **The course enables students to experience CAD as well as use a variety of hand tools and some machining processes to make a range of products over the KS.** **Throughout KS3 health and safety working practises are promoted.**

Sequence of teaching:

KS3	TERM 1	TERM 2	TERM 3
	Content	Content	Content
Year 7	Health and Safety. Establishment of workshop rules and safe working conduct. Decorative Tidy. To design and create a desk tidy primarily using MDF. • Consider requirements of desk tidy. • Design for a specific client. • Draw at least 2 ideas with labelled features. • Draw chosen idea to size. • Transfer idea to MDF. • Saw out design using coping saw. • Refine edges using hand files and glass paper. • Use of pillar drill. • Apply decorative finish of paint. • Test final product and evaluate.	Earphone Wrap. To use CAD to design and make an acrylic earphone wrap. • Consider context, establish a need. • Learn how to use 2D Designer CAD software. • Create a mood board. • Draw at least 2 ideas with labelled features. • Draw chosen idea as plan for CAM. • Draw idea using 2D Designer. • Prepare idea in CAD for CAM. To create a thaumatrope. • Research thaumatropes and create a mood board. • Develop graphical skills such as enlarging, rendering, use of line thickness. • Draw several ideas for a thaumatrope. • Make a thaumatrope.	Tag it. To create an aluminium key ring. • Use abstract shapes to propose a wide variety of ideas. • Develop chosen idea to full size drawing. • Step by step plan for making. • Transfer design to sheet aluminium. • Cut out design using coping saw or tinsnips. • Refine shape edges using hand files and wet and dry papers. • Research project about aluminium and its uses. • Apply an enamel finish (nail varnish)

Year 8	Health and Safety. A 10-minute recap of the health and safety work done last year. Identify the risks, propose precautions with reasoning. Creative Storage. To design and make a storage product from MDF to store specific items for a specific client. • Analyse existing products. • Write a specification for own design. • Draw several ideas, consider internal and external views. • Label features and materials to be used on designs. • Learn how to draw in Isometric. • Draw chosen idea in Isometric. • Annotated presentation drawing includes list of materials and costings. • Use of tenon saw to cut MDF pieces to length. • Create a box form applying top and bottom MDF pieces. • Use of band facer to refine box form. • Hand sand lid and box in preparation for applying finishes. • Create box interior structure to store the desired objects. • Use decoupage, collage techniques to create surface finish. • Apply appropriate material finish to box interior. • Create a mechanism to hold lid onto the box.	Stand n Store. To identify the need for a device stand or holder. The design is developed through card modelling before being made in sheet aluminium. • Reflection of experiences using a screen device such as a tablet or phone for prolonged periods of time. • Establish specification targets for the solution. • Develop ideas through card modelling and testing. • Finalise idea through modelling. • Draw construction plan for chosen idea. • Transfer idea to aluminium. • Cut out design using tin snips and or coping saws. • Use of pillar drill to assist sawing out of design features. • Use hand files to refine design. • Use wet and dry to refine edges. • Use of folding bars to create 3D form according to construction plans. • Apply surface decoration using a variety of materials including felt, nail varnish and surface etching.	Biomimicry pen. Design and make a pen from acrylic which is influenced by the principals of biomimicry. • Research biomimicry, present this as a mood board. • Establish what are the essential qualities of a pen. • Draw several ideas for a pen. • Laminate polymers to make a material blank from which the pen is formed. • Draw chosen idea full size. • Transfer idea to the polymer blank. • Saw out chosen idea using a coping saw. • Refine and sculpt the pen form using hand files. • Refine the form using abrasive papers and metal polish. • Decorate pen form with materials to improve the aesthetics and functionality. • Research and discuss impact of polymers on the environment, polymer alternatives including biodegradable polymers. • Test final pen form.

Year 9	Health and Safety. A 10-minute recap of the health and safety work done last year. Identify common hazard and safety signs to establish what they are telling you. Frame it. To design and make a picture frame primarily from MDF that reflects a given design era. • Analysis of existing products to establish specification. • Research and create a mood board for chosen design era. • Draw a range of ideas. • Develop one idea, creating a visual plan how to make the design. • Remove the centre from an MDF blank with a pillar drill/ hand drill and coping saw. • Hand file edges to achieve desired shape. • Lamination of components to make picture frame. • Source other materials and make additional components from appropriate materials. • Apply an appropriate finish according to plans. • Test the final product.	Jewellery. After ACCESS FM analysis of an exiting piece of one off / designer jewellery students design and make their own piece. • ACCESS FM analysis of existing item of jewellery. • Proposal of a range of annotated designs. • Development of idea, detailed drawing. • Mark out and cut out design from chosen material (free choice). • Self-select appropriate tools to refine and form the materials according to the design plans. • Assemble components according to design plans. • Evaluate finished item using ACCESS FM.	Pop up greetings card. From analysis of existing products and experimentation with lever mechanisms students design and make a pop-up greetings card. • Group analysis of existing products. • Model the 3 classes of lever. • Experiment with various pop-up mechanisms. • Propose 2 design ideas. • Plan to make a product that includes 2 pop ups. • Combine hand drawn and ICT graphical skills. • Paper cutting, may include use of craft knife and safety rule. • Combine images, folding skills and coloured papers to make the final product. • Include other details found on the back of pop up cards. • Create envelope net for final product and assemble.