

Curriculum Overview 2021-22

| | Module 1 & 2 | Module 3 & 4 | Module 5 & 6 |
|-------------------|---|--|--|
| Year 7 | <p>Storage/Jewellery Box</p> <p>Students will be introduced to safety and use of tools and machinery in the first module. This will enable them to build up skills for the box project. Students will make a Storage/Jewellery box with finger or butt joints using pine.</p> <p>The following will be the focus:</p> <ul style="list-style-type: none"> • Health and safety in the workshop and following of rules. • Safe use of tools and machinery and safety symbols • Timber theory-understanding sources of timber and the different types. In addition to this we will also look at decoupage and decorative methods, history of decoupage. • Different joints; Butt, Finger, Dowel. • Use of basic and more advanced tools: Tenon saw, Coping saw, file, pillar drill, belt sander, Try-square, steel rule. • Product Analysis • Finishing and joining techniques (timber), decorative techniques • Technical drawing skills. <p>Students may have the option to add a finish using decorative methods e.g <u>decoupage/embossing</u> should they have the time to do so.</p> | <p>Pewter Casting</p> <p>Students will be introduced to safety and use of tools and machinery in module 3. This will enable them to build up skills for the pewter casting project. Students will make a piece of jewellery or key fob using pewter casting</p> <p>The following will be the focus:</p> <ul style="list-style-type: none"> • Health and safety in the workshop and following of rules including use of PPE for working with metals • Safe use of tools and machinery and safety symbols • Categories of metals. Ferrous metals, Non-ferrous metals, Alloys • Properties of metals • Environmental impact of metals • Pewter casting and use of moulds • Working with pewter • Melting point of pewter <p>Students may have an opportunity to use CAD to make their moulds</p> | <p>Fabric doll/toy</p> <p>Students will design and make a modern fabric doll for a chosen client. They will source materials by re-using fabric.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> • Explore a variety of different fabric materials and their sources. • Explore different textiles techniques in order to create and decorate the product. • To create modern and individual dolls with the understanding of sustainable design. • How to use applique to improve a product's appearance. • To be able to distinguish between mass, batch and one-off production. <p>Students will have the opportunity to use various decorative techniques to decorate and add detail to their doll.</p> |
| Key Terms | Hardwood, Softwood, Coniferous, Deciduous, Pine, Butt joints, Finger joints, Wasting, One point perspective, Isometric, Product Analysis | Centre punch Ball pein hammer Cordless drill Hand drill Needle files Wet and dry abrasive paper/Emery paper Buffing wheel Ladle Brazing torch Sprue Mould Ferrous Non-Ferrous Alloy Visor Leather Apron Leather Gloves | Applique, Batik, Tie Dye, Mass Production, Batch Production, One-off, Sustainability(textiles), Natural, Synthetic, Seam, Tack, Stitch |
| Assessment | A mix of theory, health and safety and practical skills will be assessed. Theory will include knowledge of timber and working with timber. | Knowledge and understanding of working with pewter and properties of metals. Practical skills to be assessed throughout make. | Knowledge and understanding of textiles and working with textiles. Sources and properties of textiles. Practical skills to be assessed throughout make. |

Assessment: There will be an assessment every module. Modular will be primarily formative assessment with an end of year summative assessment.

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| Year 8 | <p>Technical Drawing Skills</p> <p>Students will explore a variety of drawing and rendering techniques that will develop their skills to the next level.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> • Use of line and weight in sketching to make designs appear 3D. • Concept sketching to display processes and relationships. • Oblique sketching and its uses • Isometric with crating. • Design details using techniques developed. • Rendering to add texture and finish. • Orthographic for design and communication. <p>Students will have the opportunity to use a range of different media such as graphic markers in order to gain a professional finish.</p> | <p>Packaging for a Product</p> <p>Students will be designing and making the packaging for a product. They will be creating packaging designs to store/display based on a theme.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> • Understanding the functions of packaging including symbols • Explore different materials used in packaging. • Understanding of the sublimation printing process. • Working with card: cutting, scoring, creasing. • Manufacturing processes such as die cutting, creasing. • Explore use of specific colours in design/colour psychology. <p>Students may have the opportunity to also carry out sublimation printing. Where appropriate the students may have the opportunity to use a graphics program to design the packaging.</p> | <p>Textiles Hanging organiser</p> <p>Students will be making a textiles organiser based on the formal elements.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> • Formal elements • Printing processes for textiles • Working to measurements and using a paper pattern • Parts of the sewing machine • Safety when working in textiles <p>Students will build on prior knowledge from year 7 and the decorative techniques can be applied to the hanging organiser.</p> |
| Key Terms | Line, Thick, Thin, Weight, Sketch, Freehand, Concept, Oblique, Isometric, Crating, Detail, Hand render, Finish, Realistic, Marker, Blend, Shade, Orthographic | <u>Protect, Contain, Inform, Store, Transport, Die cutting, Laser cutting, Sublimation printing, Sustainability(for packaging)</u> | Abstract, Formal elements, Mark making, Seam, Seam allowance, Tape measure, Tailors chalk/pen |
| Assessment | Knowledge of drawing techniques and the ability to use the skills covered throughout the module. | Understanding and knowledge of the purpose of packaging and the manufacturing methods. Knowledge and understanding of different materials used in packaging and environmental impact. | Knowledge of sewing machines and working safely in textiles. Various decorative techniques for textiles and working with measurements |

Assessment: There will be an assessment every module. Modular will be primarily formative assessment with an end of year summative assessment.

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| Year 9 | <p>3D printed Clock Project</p> <p>Students will be designing and making a clock which will be designed in Onshape software and then 3D printed.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> Producing a design brief and writing a problem. Working with Onshape tools in 3D Understanding how 3D printing works and the types of files it is saved to Working to incorporate components within designs. Developing 2D/3D drawing skills focus on exploded drawing. <p>Students may have the opportunity to include numbering either through adding laser cut pieces or adding through extrusion on Onshape-dependng on challenge.</p> | <p>Automata Toy</p> <p>Students will design and make an automata toy using cardboard modelling. This will develop their mockup modelling skills.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> Understanding of the different motions. Development of model making/prototyping skills with a degree of complexity and accuracy. Development of 2D/3D drawing skills with detailed annotation and a range of techniques to explain ideas. Working to scale. Understanding of Levers and Cams. <p>Students may use 3D printing should they want to create their own components.</p> | <p>Product Design Project</p> <p>Students will complete a full project and follow the iterative process. All aspects of research, design and make will be covered.</p> <p>The following will be of focus:</p> <ul style="list-style-type: none"> Working for a client's needs. Creating own design brief and specification. Organising own time-Gantt chart. Collecting and use of <u>relevant</u> data. Analysis of data. Initial designs and detailed development with good communication. Understanding anthropometrics and Ergonomics for design. Development of a prototype and techniques. Evaluation of product. <p>Students should show an awareness of the iterative design process throughout their project.</p> |
| Key Terms | Layers, Layout, Extrude, Additive manufacturing Subtractive manufacturing, STL, CAD, CNC, FFF, FDM, Problem/Situation, Exploded, Isometric | Automata, Mechanisms, Movement, Scale, Cam, Lever, Motion, Forces, Gears, Ratio | Design process, Iterative design, First hand, Second hand, Data, Anthropometric, Ergonomic, Gantt chart, Diary, Design development |
| Assessment | Practical use of CAD through Onshape and use of tools to create a 3D prototype. Use of CAD with relation to society. | Knowledge and understanding of different mechanisms and motions. Creation of prototype through modelling skills. | Understanding of the design process. Assessment will be through folder work and tasks set and online questions. |

Assessment: There will be an assessment every module. Modular will be primarily formative assessment with an end of year summative assessment.