KS3 DESIGN AND TECHNOLOGY LEARNING JOURNEY

TUXFORD ACADEMY

End of KS3 Reflection

Product Design – Materials & Sustainability

- Consider how fabrics are developed & selected from environmental, social & cultural perspectives
- Work with instructions and a pattern
- Create a product by reusing fabric & repurposing products.

Product Design - Biomimicry Lamp

- Learn biomimicry designing
- Work to a given tolerance
- Make & work with templates
- Learn how to use tessellation
- Learn how to use a range of tools & equipment
- Learn series and parrel circuits
- Soldering skills and techniques

Engineering – CAD/CAM

- Reading technical drawings
- Creating 3D models using sketched geometry and features.
- Creating photo realistic renders
- Creating Assemblies
- Creating technical animations
- CAM virtual simulations

Engineering – Games Controller

- Researching User need
- Prototyping
- CAD/CAM
- Branding - Point of Sale
- Working to a Design Specification
- drawing skills
- Advanced third angle orthographic projection
- Evaluation and feedback

Food – High Skills

- Dough making
- Knife Skills
- Food Hygiene
- Flavour combination
- Product development
- Ingredient working properties

YEAR 9 KS3

End of Year Assessment

Mechanisms Automaton Project

- Types of motion
- Mechanical systems
- Wood skills using MDF
- Finger joints
- Templates, jigs and formers.

Manufacturing Skills -Design Movements

- Measuring & marking out
- Working to a tolerance
- Use a range of wood tools & equipment
- Learn about iconic furniture design
- Health & safety awareness
- Finishing a product according to a specification

Food Science

- Food Science Processes
- Food hygiene & safety
- Cooking with high risk foods
- Product development
- Knife Skills

Soldering Skills

- Intro to soldering
- Circuit CAD
- Sensor circuit
- E waste
- Recycling
- Prototyping in card

Lego Project

- Drawing Skills - Orthographic
- CAD TechSoft 2D design tools
- Branding
- Design Communication skills
- Mechanisms

Textiles Skills

- Design History & Contemporary Designers
- H&S safety
- Basic knowledge & understanding of sewing machine
- Tie dye techniques
- Basic knowledge & understanding of fabrics
- Textiles techniques: appliqué & fabric pens
- Assembly Skills : textile

YEAR 8 KS3

End of Year Assessment

Textile Skills

- Use of textiles equipment, techniques and vocabulary
- Creating a sample board showing developed skills
- Consider textiles in an environmental context.

Drawing Skills

- One point perspective
- Two point perspective
- Isometric
- Rendering / shading / colour
- Evaluation

Design & Make Project – Photo Frame

- Researching ideas
- Use of wood hand tools/equipment
- H&S safety awareness
- Practical making skills
- Learn how to make different wood joints
- Material Properties
- Making Techniques

CAD/CAM Skills

- 2d design skills
- X Y coordinates
- Dimension
- Basic 3d modelling
- CAM
- CAD work flow

Prototyping & Design – Smartwatch

- Existing product research
- Generating prototype designs
- Initial modelling of a prototype
- User feedback to optimise
- Developing a CAD design
- Presenting a Final Prototype
- Exploring future wearable technologies
- Exploring possible accessories

Food Skills

- Health and safety
- Knife skills
- Basic cooking techniques
- Healthy Eating & Nutrition
- Sensory Science
- Food provenance

YEAR 7 KS3