KS3 DESIGN AND TECHNOLOGY LEARNING JOURNEY

TUXFORD ACADEMY

YEAR 9 KS3

Product Design - Trainer

- Investigating Trainer Design and Construction
- User Centred Design
- Material Properties
- Modelling and Prototype Techniques
- Graphical Portfolio & Presentation Techniques
- Testing & Evaluating a Product

End of KS3 Reflection

Product Design - Set Design

- Research informed designing
- Iterative Design
- Prototyping
- Biomimicry Design

Engineering – Presentation Stand

- Working to a tolerance
- Third angle orthographic projection
- Wood finishing techniques
- Corner joint techniques.
- H&S safety awareness
- Advance wood tools & equipment use
- CAD/CAD
- Basic Electronics

Engineering – Games Controller

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

Food – High Skills

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

End of Year Assessment

- Measuring & marking out
- Working to a tolerance
- Using a range of woodworking tools & equipment
- Health & safety awareness
- Finishing a product according to a specification

Mixed Material Project

YEAR 8 KS3

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 design
- 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

End of Year Assessment

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
- 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