GCSE Design & Technology: Product Design

Year 10 Programme of Study

Half Term one- Chair Design Project

- Human Factors - ergonomics/anthropometrics in design
- Iconic Designers & Art Movements – Bauhaus / Art Deco & Modernism
- Drawing skills- Perspective Drawing - One Point & Two Point
- Prototypes/modelling in design
- End of term assessment

Half Term two- Sweet Dispenser Project – Workshop Safety

- Materials – Softwood / Hardwood and their properties
- Marking out – Try Square / Steel Ruler / Quality Control / Tolerance
- Cutting – Tenon Saw / Coping Saw / Chiseling / Bench Hook
- Drilling – Pillar Drill / Marking Out / Machine Vice
- Construction – Gluing / Nailing
- Finishing – Sanding / Belt Sander / Oiling

Half Term three- Lamp Design Project

- CAD / CAM Skill focus
- Automation
- 2D Design – Create a 2D Template
- Quality Control / Tolerance
- Using CAM (Laser Cutter – Lightburn)

Half Term Four – Handheld Maze Game

- Materials – Manufactured Boards & their properties.
- Marking Out – Try Square / Steel Ruler / Quality Control / Tolerance
- Cutting – Housing Joint – Tenon Saw / Blocks – Tenon Saw / Coping Saw
- Design – Planning the game layout – Research a theme
- Drilling – Pillar Drill – Holes for game
- Construction – Building the frame / Gluing / Screws for lid.
- Finishing – Painting / Posca Pens

Half Term Five – Plywood Resin Tables

- Materials – Timbers & Manufactured Boards Re-cap / Resin
- Drawing Skills – Isometric Projection / Orthographic Projection
- Environmental Impacts
- CAD / CAM – Making Tabletop Design
- Cutting – Tenon Saw & Coping Saw / Making Wood Joints (Legs)
- Finishing – Sanding / Painting / Varnishing / Staining / Waxing
- Resin – Pouring & Using Pigments

Half Term Six – Release of Non-Exam Assessment

Section A – Research Activities

Year 11 Programme of Study	
Half Term One - Four Section B – Reviewing Research, Writing Design Brief and Design Specification Section C – Creating & Developing Designs Section D – Testing & Modelling Section E – Realising & Making Final Product Section F – Testing & Evaluation of Final Product **Half Term Five and Six** • Revision • Exam Practice • Revision tests	
Cross Curricular Links 	• 3D Shapes – **Maths, Year 9** • Colour Theory (some links can be made) - **Drama, Year 9** • Culture within Design – **Art & Design Year 9** • Health and Safety – **Science, Year 7** • Construction and drawing – **Art & Design, Year 7** • Measuring and Construction – **Maths, Year 7** • Observational Drawings – **Art & Design, Year 9** • Proportion and Scale – **Maths, Year 8** • Quality and production – **Business Studies, KS4** • Real world solutions – **Computing, Year 9** • Rotation, Reflection and Translation – **Maths, Year 8** • Three-dimensional work – **Art & Design, Year 8** • Angles and Bearings – **Maths, KS4** • Sampling and Representing Data, **Maths, KS4** • Forces – **Science and Engineering, KS4**