

Y11

NEA: Topic to be decided by exam board.

Key content: Completing the design process to create a final model, designing for a client, the iterative design process

Skills: designing, modelling, CAD/CAM, problem solving, practical skills, consumer testing, manufacturing specifications, evaluating

Revision: All core topics to be covered and extra topic to be determined though identifying gaps in knowledge

Skills: Practice exam questions, applying theory knowledge, learning through practical application

Y10

Project: Skateboard project

Key content: Introduction to materials Laminates and veneers, looking at batch production, advantages of CAD/CAM

Skills – Graphic design, typography, Cad design, vacuum bag press, heat press, filing sanding, finishing, accuracy in making

Project: Concrete lamp

Key content: prototyping, properties of metal, composites, developing through iterative design, joining methods, designing jigs, applied maths inc. ratios and volume, redistributing and wasting

Skills – Creating moulds, metal casting, mixing composites, Joining materials, creating structures, foam modelling, evaluating

Project – Flat pack furniture

Key contents: Scales of production, knockdown fittings, Use of ICT in design, client briefs, forces and structures

Y9

Project: Grab and Go Bag – wrap up tool bag to carry equipment such as tools, art supplies or make-up

Key content – Looking at cultural influences on the textile industry, Working to a specification, coming up with problem solving ideas, standard components

Skills: Advanced construction techniques including zips, fastenings and piping, combining different fabrics, fabric printing techniques, producing production plans

Project: Lighting solutions – Using iterative design process to create a small light

Key content – Looking at design movements, creating a specification, electronics and components, User centred design, building on CAD/CAM knowledge.

Skills – modelling skills, Use advanced tools including chisels and/or table router, finishing techniques, detailed orthographic drawing, evaluating through testing.

Y8

Project: Creative Characters – Designing and making creative characters to promote book sales

Key content: Looking at using Textiles to promote products, material selection based on properties, British safety standards and product testing.

Skills: Pattern making, Joining fabrics, building on hand stitching skills, 3D Construction methods, fabric printing, Embellishment, presenting ideas

Project: Alessi organise it! – Creating products to solve problems in the style of Alessi through iterative design.

Key content: Looking at existing designers, product analysis, outlining a client and carrying out consumer testing, use of ICT in manufacture

Skills: Designing in isometric, use of orthographic drawing, card modelling skills, Cad modelling, evaluating and improving.

Y7

Project: Solving Problems – Using knowledge mechanisms, levers and gears to solve a range of different problems.

Key content: Forces and mechanical systems, introduction to material types and properties, introduction to the workshop and health and safety rules.

Skills: Using problem solving skills, use of isometric drawing and rendering, basic hand tools including coping saws, tenon saws, files, Pillar drill, belt sander.

Project: E-safety – Using simple e-textiles and conductive thread to create a light up badge.

Key Content: Types of fabrics and their origins, basic circuit design, modern materials, relevance of textiles in today's world

Skills: Hand stitching, threading and using a sewing machine, embroidery, fabric construction, hand-eye co-ordination.