KS4 Curriculum Map	Subject	Design & Technology: Graphics

Year 10 Autumn	Year 10 Spring	Year 10 Summer
KNOWLEDGE SKILLS AND UNDERSTANDING DEVELOPMENT **FOCUS** • Health & safety in graphics – identifying risks and taking steps, identifying and designing symbols for H&S • The work of others - key Designers, movements, manufacturers & retailers • Paper & board production • Paper & board sizes & stock forms • Scales of production • Graphic tools • One and two point perspective drawing • Drawing enhancement techniques • Isometric drawing • Orthographic drawing • Flow charts, flow diagrams & system diagrams • Quality control & tolerances • Print finishing • Types of motion **DESIGNING** • Capability baseline design task – healthy kids/ mission patch • Google doodle mini project • Badge design and manufacture **HOME LEARNING** • Students are given a topic sheet to revise and are tested on each week, topics inc.: • The Work of Others - Designers • Manufacturers & retailers • Ecological Issues	**KNOWLEDGE SKILLS AND UNDERSTANDING DEVELOPMENT** **FOCUS** • Types of movement • Forces • Mechanisms levers • Dimensioning drawings to British standards • Gears and pulleys • Energy generation & sources • Introduction to basic electronics • Technology in manufacturing including CAD/CAM & Robotics • Industrial printing techniques • Identifying tools- all materials • Polymer types and applications • Polymers – forming methods • Visual presentation skills • Thick & thin line weighting • Representing data – charts & graphs **DESIGNING** • Designing for the disadvantaged – ergonomics • Collection box design • Acrylic jewellery CAD/CAM mini project **HOME LEARNING** • Natural & manufactured textiles • Stock forms • Finite and non-finite resources • Nuclear energy • Gears	**KNOWLEDGE SKILLS AND UNDERSTANDING DEVELOPMENT** **FOCUS** • Nets • Paper & board - materials • Design brief/design specifications • Exploded drawings • Scale drawing • Ergonomics/Anthropometrics • Types of adhesives • Product analysis - comparing old and new • Product analysis – products for specific groups • Product analysis – ACCESS FM • Tessellation and shape nesting – maximising materials • Quality control in printing • Rendering materials **DESIGNING** • Typography design task • Designing for a target market task • Designing symbols for energy sources **HOME LEARNING** • Types of cams • Renewable energy • Fossil fuels • Linkages • Pulleys • Enterprise • Material properties • Modifying materials • Selecting materials

• Sustainability 6Rs • Hardwoods • Softwoods • Ferrous Metals • Non-Ferrous Metals • Alloys • Paper Types • Manufactured Boards • Types of Board (Paper based) **REVIEW TEST** • A summary test paper is given at the end of the term to determine learning strengths and weaknesses	• Enhancing material properties • Colour association • Electronic components/symbols • Forces • Smart materials • Influence of People in design & manufacture • Tolerances • Polymers **REVIEW TEST** • A summary test paper is given at the end of the term to determine learning strengths and weaknesses	• Production aids • Social issues • Sources & origins • Surface treatments **REVIEW TEST** • A summary test paper is given at the end of the term to determine learning strengths and weaknesses **PPE 1** • Some lesson time is used for revision and preparation in the weeks up to this point home learning is adapted to reflect the questions set **NEA STARTS 1ST JUNE** **The NEA is a design and making task that contributes 50% towards the students' final mark.** • Students spend this time researching their chosen context as issued by the exam board. • Students develop evidence of investigating the context requirement • Students develop their NEA project brief

Year 11 Autumn	Year 11 Spring	Year 11 Summer
GCSE Non-Exam Assessment Students produce evidence for: • Developing a product that solves the requirement of the context • Analysing the requirements of the context • The client profile and their requirements using market research • Investigating existing products to determine what is needed in their own • Developing their design brief • Developing a design specification • Engaging in the production of initial ideas • Using iterative design strategies to develop their initial ideas showing alternative design pathways • Using CAD to further develop their ideas • Evaluating at each stage of the design process and seeking the client's feedback • Using rapid modelling techniques to visualise their designs in 3D **PPE 2** • Some lesson time is used for revision and preparation in the weeks up to this point home learning is adapted to reflect the questions set	**GCSE Non-Exam Assessment** Students produce evidence for: • Further research in light of client feedback • Developing the design to a conclusion and visual presentation • Produce a working drawing • Developing a manufacturing specification • Engage in making the range of product models, recording the stages of making **PPE 3** • Some lesson time is used for revision and preparation in the weeks up to this point home learning is adapted to reflect the questions set	**GCSE Non-Exam Assessment** Students produce evidence for: • Evaluation against brief & design specification • Client feedback • Summary of the product range and modifications **GCSE Exam preparations** • This takes place after the submission of the NEA lesson time is then committed to exam revision and preparation.