GCSE Design & Technology 20.21 Curriculum

	AUT 1 21 hours	AUT 2 24 hours	SPR1 15 Hours	SPR 2 18 hours	SUM 1 18 hours	SUM 2 21 Hours
Year 10	**Book 1** **Timber based materials** Sources, Origins & Properties (3) Working with Timber Based Materials (8) Commercial manufacturing, Surface Treatments and Finishes (4) Practical – Box Project Practical (4)	**Book 2** **Designing Principles** Industry and Enterprise (8) People, culture, and Society (3) **Core Technical Principles** Sustainability & the Environment (5) Ecological & Social Footprint (3) **Designing Principles** Production Techniques & systems (3) Scales of Production (2) ***Assessment 1 + Reteach Misconceptions (2)***	**Book 3** **Polymers** Polymers - Sources, Origins & Properties (7) Working with Polymer based Materials and Fixings (4) Commercial manufacturing & Quality Control (4) ***Assessment 2 (1) + Re-teach misconceptions (1)***	**Book 4** **Year 10 Current Book and add systems approach to designing in and Forces and stresses in.** **Common Specialist Principles** Forces & Stresses on Materials & Objects (1) From Year 9 Mechanical Devices (6) *Using angular measurement in degrees. Determine angular movement of mechanisms* **Core Technical Principles** Electronic Systems Processing (4) Book 5 will start during this term based on hours. **7 Hours Practical**	**Book 5** **HCL to merge LMC 1st section in with current Summer 1 Booklet** **Designing Principles** Informing Design Decisions (5) Investigation, Primary and Secondary Data (3) The work of others (2) Design Strategies (4) **Making principles** Selection of Materials and Components (1) Tolerances and Allowances (1) Material Management and marking out (5) *Recognise and use expressions in decimal and standard form.* *Calculating surface areas and volumes - Trigonometry & Area of shapes and calculating waste material.* *Recognise and use expressions in decimal and standard form.* *Tessellation of shapes and patterns.*	**NEA** **A01** **Identify, Investigate & Outline Design Possibilities** **20 Marks"** **A: Identify, Investigate & Outline Design Possibilities (10 Marks)** Mind Map (2) Client and Client Needs (2) Key Features of Existing products (2) Product Analysis (2) *Handling data - Understanding and representing data including bar charts, pie charts. Presentation of data. Diagrams, bar charts and histograms.* **B: Producing a Design Brief & Specification (10 Marks)** Design Brief & Specification (4) **A02** **Design and Make Prototypes that are fit for purpose.** **60 Marks** C: Generating Design Ideas (20 Marks) 3 Design ideas pages with inspiration (9) **Taught remotely but had to reteach face to face when pupils returned due to poor engagement

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Year 11	**NEA** **A02** **Design and Make Prototypes that are fit for purpose.** **60 Marks** D: Developing Design Ideas (20 Marks) Review of ideas against Spec (1) Card Modelling (6) Model Evaluation (1) Design Development Sketches (2) Model Development and reviews (3) Parts layout Drawings (1) Solidworks (7) *Recognising and using expression in decimal and standard form. Basic measuring and number*	**NEA** **A02** **Design and Make Prototypes that are fit for purpose.** **60 Marks** E: Realising Design Ideas (20 Marks) 19 Hours A03 Analysing & Evaluating 20 Marks **F: Analysing & Evaluating (20 Marks)** 6 Hours **MAY 7th Deadline** *Costing using basic number and calculating areas of triangles, rectangles, rectangles and volumes of cubes. To determine material needed and calculate waste*	**Designing & Making Principles** **Making principles** **FPH to merge this booklet. Most content already done.** Specialist tools, equipment. Techniques and processes. (1) Surface treatments and finishes. (3) Improving Functionality (2) **Core Technical Principles** Energy Generation (3) Energy Storage (3) Six R's (2) Recap – they are taught this for 6 lessons in year 9	**Exam Revision of key Topics**	**Exam Revision of key Topics**	**Exam Season – Revision of key Topics**