**Key Stage 5 Curriculum Map** Department: Design and Technology – Theory 1

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| **Subject****Year** | Year 13Design and Technology | *Overview/rationale & statement of importance – what learners can expect to gain from studying this subject this year*In Year 13, students will continue to progress with their own individual design context, working with a client in order to produce a prototype which demonstrates the students creative practical problem solving skills. Parallel to this students will study Ergonomics (including inclusive designs) design theory, changes in technological advancements, responsibility in design, marketing and project management. |
| **No of weeks/lessons** | 5 Lessons | 5 Lessons | 5 Lessons | 5 Lessons | 5 Lessons | 5 Lessons |
| **Unit Title** |  Design Theory | Technological/Cultural Changes and Product Life Cycle | Responsible Design  | Enterprise and Marketing | Selecting Tools and Accuracy in Design and Design | Design for Manufacture and Project Management |
| **Objective** | To study key historical design styles, movements and influential designers which have had an effect on society | To study how major changes in technology are shaping product design and manufacture | To be aware the impact designers and manufacturers have on the environment and ways they can be more ethical and sustainable. | To link with packaging in responsible design – students will look at how companies label and package products. | As students are progressing with their NEA they need to be aware of tools, equipment and accuracy.  | Students to know the importance of planning for accuracy and apply QA/QC methods linking to scales of production methods. |
| **Iterative Links** | Building on what has been covered at GCSE and Yr12 but in more detail | Pupils covered this at GCSE for the specialist technical principle material area. | Building on knowledge and understanding of 6Rs covered in Yr11 and Design for Manufacturing, Maintenance, Repair and Disposal taught in Yr12 | Building on knowledge and understanding of the previous unit of work | Building on knowledge and understanding of experience of the design and make tasks in Year 12. | Building on theory from last topic and work done in Yr11. |
| **Knowledge & Understanding** | To develop knowledge and understanding of key historical design styles, movements and influential designersTo be aware of designers and their work and how their designs were influenced by design principles | To gain knowledge and understanding of how socio-economic influences have helped shape product designTo know how major changes in technology are shaping product design and manufactureTo know how the product life cycle helps refine and re-develop new products | To gain knowledge and understanding of the responsibility of designers and manufacturers to ensure products are made using sustainable materialsTo know the impact packaging has on the environmentTo be aware of the circular economyTo know how to reduce the carbon footprint when designing and making products | To gain knowledge and understanding of the importance of marketing and brandingTo understand the ways products are advertiseTo be aware of the role of entrepreneurs, marketing and collaborative working | To gain knowledge and understanding of how to select the correct tools and processes for the correct material.To be aware of H&S when selecting tools and risk assessmentsTo understand a range of measuring and marking toolsTo know how to eliminate errorsTo be able to use measuring aids to ensure consistency | To gain knowledge and understanding of quality control and quality assuranceTo know different QA procedures; such as: TQM, scrum and Six SigmaTo know different QC methods; including: go/no-go gauges, laser or probe scanning, x-rays and ultrasound |
| **Skills** | To link specific designers and movements to the era, style and influence.  | To interpret product life cycle graphs and link to case studies such as Apple or Samsung products | To develop a range of case studies and be able to link to theory | Numeracy skills in product costing and profit. | To use jigs, templates and formers | To develop a range of case studies and be able to link to theory |
| **Literacy** | Theoretical work, exam questions | Theoretical work, exam questions | Theoretical work, exam questions | Theoretical work, exam questions | Theoretical work, exam questions | Theoretical work, exam questions |
| **Numeracy** | Extended response exam questions  | Interpreting graphs | Maths based questions linked to topic | Maths based questions linked to topic – profit and costing | Maths based questions linked to topicMeasuring/Marking | Maths based questions linked to topic – critical path analysisMeasuring/Marking |
| **Assessment** | SWIK: exam style questionsPLC – check against assessment | SWIK: short exam style questions (F)End of unit test (S)PLC – check against assessment | SWIK: short exam style questions (F)End of unit test (S)PLC – check against assessment | SWIK: short exam style questions (F)End of unit test (S)PLC – check against assessment | SWIK: short exam style questions (F)End of unit test (S)PLC – check against assessment | SWIK: short exam style questions (F)End of unit test (S)PLC – check against assessment |
| **Health and Safety** |  |  |  |  | Students to follow H&S rules when using jigs, templates and formers |  |
| **Cross-curricular** | Art, Sociology, History | Economics, Sociology, Maths | Science, Maths, Geography | Business Studies, Maths, Engineering, IT | Maths, Engineering, IT, Business Studies | Maths, Engineering, IT, Business Studies |

Approximately 60 lessons

35 lessons