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

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| **Subject**  **Year** | Year 13  Design 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 designers  To 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 design  To know how major changes in technology are shaping product design and manufacture  To 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 materials  To know the impact packaging has on the environment  To be aware of the circular economy  To know how to reduce the carbon footprint when designing and making products | To gain knowledge and understanding of the importance of marketing and branding  To understand the ways products are advertise  To 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 assessments  To understand a range of measuring and marking tools  To know how to eliminate errors  To be able to use measuring aids to ensure consistency | To gain knowledge and understanding of quality control and quality assurance  To know different QA procedures; such as: TQM, scrum and Six Sigma  To 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 topic  Measuring/Marking | Maths based questions linked to topic – critical path analysis  Measuring/Marking |
| **Assessment** | SWIK: exam style questions  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 | 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