**Key Stage 4 Curriculum Map** Department: Design and Technology

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| **Subject**  **Year** | Year 11  Design and Technology | *Overview/rationale & statement of importance – what learners can expect to gain from studying this subject this year*  In Year 11, pupils will continue the GCSE programmes of study. This will include pupils gaining knowledge and understanding of specialist technical principles on either timbers or polymers and investigating how important sustainability is in the design process. Students will progress with their Non-Examined Assessment using the knowledge of topics covered in Year 10 in order to design, develop and realise a prototype suitable for a client and end-user. Throughout the process, students are encouraged to use a range a iterative design approaches to produce a creative, innovative and functional prototype. | | | | |
| **No of weeks/lessons** | Term 1 – 13 weeks.  (Mocks and Work Ex) | Term 1 – 13 weeks | Term 1 – 12 Weeks | Term 2 | Term 2 | Sum Term 1 – 7 Weeks |
| **Unit Title** | Non-Examined Assessment | Theory – Specialist Technical Principles (Polymers or Timbers) | Non-Examined Assessment | Non-Examined Assessment | Theory – Unit 4  Common Specialist Principles | Exam Prep. |
| **Objective** | Students to progress with the NEA focussing on design and development in the first half of the term | Pupils to gain specialist knowledge of a specific material area in more detail than Yr10.  Home Learning Booklet | Students to progress with the NEA focussing on planning for make and making the prototype model | Students to progress with the NEA focussing making the prototype model and evaluating the final product | Pupils to gain specialist knowledge and understanding of forces, stresses, improving functionality, sustainability, 6Rs and scales of production  Home Learning Booklet | To be able to prepare students for the end of year exam in June. |
| **Iterative Links** | To build on the iterative design process taught in Yr10 | Pupils studied materials in Yr10 and will now choose one of these to study in more detail. | To build on the iterative design process from the first term applying making/modelling skills from Yr10. | To build on the iterative design process from the first term applying making/modelling skills from Yr10. | Pupils to build on knowledge of new and emerging technologies from Yr10.  Apply knowledge to products from forces learnt in Physics | To apply all knowledge and understanding of all theory and NEA lessons through the use of exam style questions |
| **Knowledge & Understanding** | To be able to know how to develop a chosen product and plan for the making part of the NEA. | To gain specialist knowledge in one material area focussing on stock forms, types, properties, uses and processes. | To be able to know how to plan for the making and apply skills learnt from Yr10. | To be able to know how to plan for the making and apply skills learnt from Yr10. | See objective | As above |
| **Skills** | Designing Skills  Development/modelling skills  Planning  Orthographic drawings | Linking the properties with the types of material and uses. | Planning skills – use of anthropometric data  Making/modelling skills | Planning skills – use of anthropometric data  Making/modelling skills  Evaluating and suggestin modifications | Applying forces and stressed to improve functionality to products. Linking sustainability to reduce, refuse, recycle, reuse, repair and rethink to products. Linking mass, batch, on-off production to production techniques learnt in term 1. | Exam prep and techniques |
| **Literacy** | Analysis of design and development  Use of CAFEQUE cards | Subject specific terminology  Key words and glossary | Analysis of work in folder | Analysis of work in folder | Subject specific terminology  Key words and glossary  Essay style extended answers | Subject specific terminology  Key words and glossary  Essay style extended answers |
| **Numeracy** | Scale  Measurements  Use of Anthropometric Data | Maths based exam questions | Sizing – measuring | Sizing – measuring  Presenting data and surveys | Extended answer questions on sustainability and 6Rs | Maths based exam style questions. |
| **Assessment** | Ongoing throughout the NEA in accordance with JCQ rules on feedback. | SWIK: mini exam questions (F)  End of unit test (S) | Ongoing throughout the NEA in accordance with JCQ rules on feedback. | Ongoing throughout the NEA in accordance with JCQ rules on feedback. | SWIK: mini exam questions (F)  End of unit test (S) | SWIK: mini exam questions (F) |
| **Health and Safety** | General workshop H&S rules  Specific H&S rules for wire cutter (see CLEAPSS risk assessment)  Specific H&S rules for craft knives |  | General workshop H&S rules  Specific H&S rules for tools and machines in workshopo (see CLEAPSS risk assessment) | General workshop H&S rules  Specific H&S rules for tools and machines in workshopo (see CLEAPSS risk assessment) |  |  |
| **Cross-curricular** | Science, Engineering, Maths, Art, Psychology, Sociology | Science, Maths | Science, Engineering, Maths, Art, Psychology, Sociology, PSHE | Science, Engineering, Maths, Art, Psychology, Sociology, PSHE | English, Geography, Science | English, Geography, Science, Maths |