KS5 CURRICULUM MAPPING: Huntington School Design and Technology

Curriculum Intent: The Design Technology department at Huntington School is committed to delivering an exciting and innovative curriculum that is accessible to all students and provides opportunities for learners to become self-confident and imaginative problem solvers who can thrive in an ever-evolving technological society. With creativity at its core, lessons will provide the opportunity to access new technologies and develop traditional skills so that learners can create high quality outcomes that consider important social, ethical, and environmental responsibilities. Evidence based teaching strategies and a safe and supportive environment will foster the independence to experiment without fear of making mistakes and develop the resilience and awareness to become the designers, makers, and consumers of tomorrow.

Year 12	Autumn Term		Spring Term		Summer Term	
Theory	HT1	HT2	HT3	HT4	HT5	HT5
1	Polymers Bioplastics Polymer Sheet Elastomers 3.1.1 Materials and application 3.1.2 Performance characteristics 3.1.3 Enhancement 3.2.5 Critical Analysis	Polymers Bioplastics Polymer Sheet Elastomers 3.1.4 Processing 3.1.4.5 Adhesives 3.1.5 Finishes 3.2.5 Critical Analysis END OF TERM TEST	Papers + Boards 3.1.1 Materials and application 3.1.2 Performance characteristics 3.1.4 Processing 3.1.5 Finishes Composites 3.1.1 Materials and application 3.2.5 Critical Analysis	Smart Materials 3.1.1 Materials and application Modern Materials 3.1.1 Materials and application 3.2.5 Critical Analysis END OF TERM TEST	3.1.8 Product development and Inclusive Design 3.1.9 Safe working Practices	3.1.13 Enterprise and Marketing 3.1.10 Intellectual Property 3.1.6 Scales of production Y12 EXAMINATIONS – Paper 1
2	Woods 3.1.1 Materials and application 3.1.2 Performance characteristics 3.1.3 Enhancement	Woods 3.1.4 Processing 3.1.4.5 Adhesives 3.1.5 Finishes END OFTERM TEST	Metals 3.1.1 Materials and application 3.1.2 Performance characteristics 3.1.3 Enhancement	Metals 3.1.4 Processing 3.1.4.5 Adhesives 3.1.5 Finishes 3.1.6.2 Efficient use of materials END OF TERM TEST	3.1.6.2 The use of computer systems 3.1.6.2 Sub assembly 3.1.7 CAD CAM Virtual Modelling Rapid Prototyping EDI PPC	3.1.11 Manufacture, Repair, Maintenance, Disposal Ease of Manufacture Disassembly 3..1.12 Feasibility studies 3.1.14 Design Communication Y12 EXAMINATIONS – Paper 1
NEA Courswork	Mock NEA project Investigation of context Research techniques	Mock NEA project Design Brief Design Specification Sketching techniques	Mock NEA project Idea development Communicating ideas CAD design Technical drawing skills	Mock NEA project CAD modelling Prototype modelling Testing	Mock NEA project Final prototype manufacture Evaluation and analysis	NEA coursework Investigation of context Research techniques

Year 13	Autumn Term		Spring Term		Summer Term	
Theory	HT1	HT2	HT3	HT4	HT5	HT5
1	3.2.2 Design Influences Design Styles and Movements Designers and their work 3.2.5 Critical analysis	3.2.3 Socio economic influences Major developments in technology Social, moral, ethical 3.2.3.4 Product life cycle New manufacture 3.2.5 Critical analysis END OF TERM TEST	3.2.8 Environmental issues Conservation of energy/resources 3.2.10 International standards 3.2.5 Critical analysis	3.2.9 Planning for accuracy/efficiency Quality assurance Quality control 3.2.5 Critical analysis END OF TERM TEST	Revisiontopics	
2	3.2.1 Iterative Design Process 3.2.4 The use of the design process Iterative design process in industry Prototype development	3.2.3 Advancements in CAD CAM 3.2.5 Testing in commercial products Use of third-party feedback in testing END OF TERM TEST	3.2.6 Selecting tools, equipment, processes 3.2.7 Accuracy in design and manufacture	3.2.5 Critical analysis END OF TERM TEST	Revision topics	
NEA Courswork	NEA coursework Design Brief Design Specification Sketching techniques	NEA coursework Ideas development Communicating ideas CAD design Technical drawing skills	NEA coursework CAD modelling Prototype modelling Testing	NEA coursework Final prototype manufacture Evaluation and analysis	Revision Topics	

Paper 1 – Technical Principles	**Paper 2 – Designing and Making Skills**	**NEA Controlled Assessment (100 marks)**
Written exam 2 hours 30 minutes 120 marks 30% of A-Level Mixture of short answer and extended response.	Written exam 1 hour 30 minutes 80 marks 20% A-level Mixture of short answer and extended response questions	An independent design and make project with a student led context focus to solve a client based problem. Design folder Final prototype product

Assessment and Feedback	▪ Verbal feedback will be given throughout practical assignments on a weekly basis. ▪ Students complete extended written responses to examination based questions twice every half-term. Feedback is a combination of teacher and peer feedback. ▪ One-to-one verbal and detailed written feedback will be given to students based on a series of practice examination questions they undertake. ▪ Significant sections of work will be produced as part of the NEA project. In line with exam board and JCQ regulations, individual feedback is not permitted. Student progress tracking and general class feedback will support student progress. Regular fortnightly portfolio checks will give guidance on appropriate 'strengths' and 'areas for improvement' ▪ In the event of whole class remote learning requirements, feedback will be provided through TEAMS The mark weighting for the GCSE exam and NEA controlled assessment are shown above and colour coded on the curriculum plan above
Homework	Homework will be set on a weekly basis. Students will spend 1 hour per lesson on extended learning tasks. Teachers will be available at dedicated times after school to support students with NEA projects. ▪ To embed key subject content in long term memory, e.g. the learning of manufacturing processes and concepts. ▪ Learning and revision for class tests and examinations e.g cue cards, mind-maps ▪ To prepare and answer questions based on subject content. ▪ Extend learning and reinforce key learning in class e.g. to practise examination questions. ▪ Research in preparation for future tasks e.g. present information on specific manufacturing processes to others. ▪ Practice and develop skills e.g. completion of written annotation work. ▪ Completion of NEA tasks e.g. research skills, evaluation of practical tasks etc. ▪ Extension of learning from the lesson e.g. questions related to key learning. ▪ Completion of practical activities in extended learning sessions after school.
How can I help my child?	▪ Take the time to investigate and discuss everyday objects and consider their materials, manufacture and function. Could they be improved? ▪ Watch DT related videos e.g. 'How it's made' and 'Inside the factory' series on Youtube are very informative to support industrial practice ▪ Disassemble and make products if the facilities are available. ▪ Encourage ICT skills in design and modelling. Knowledge and understanding of 3D printing is very beneficial to NEA project development. ▪ Act as client for projects and help provide feedback on the work produced. ▪ Encourage regular revision of topics being covered in lessons. ▪ Help support the logical organisation of class notes in folders.