INTENT: Curriculum Overview (Year 11) GCSE D&T: Papers & Boards

A learner in Year 11 will know: how to investigate, design, make and evaluate a prototype of a product that will allow them to apply the skills they have acquired and developed throughout their study. Students are required to analyse a given contextual challenge from a range of three on an individual basis. Having selected a contextual challenge to work within, students should develop a range of potential ideas and then realise one through practical making activities. The project must allow students to apply knowledge and understanding in a product development process to investigate, design, make and evaluate their prototype.			A learner in Year 11 will be able to: follow an iterative design process rather than a linear process requiring them to continually test, evaluate and refine ideas. The content and assessment criteria are set out in a linear format to show what is required at each stage of the total project, but following an iterative process students will do work on different stages at a variety of points thorough their project.		
A: Core knowledge	B: Paper & Board knowledge	C: NEA preparation	D: NEA Coursework Unit	E: Topic/Theme	F: Topic/Theme

Term 1	1:1: NEA Coursework Unit	1:2: NEA Coursework Unit	Autumn % Assessment
	Knowledge: Contextual challenge – Review of initial ideas Contextual challenge – Development of materials & finishes Contextual challenge – Development of scale & ergonomics Contextual challenge – Development of nets/joints Contextual challenge – Development of tools/equipment Contextual challenge – Development of fixings, fastenings & adhesives Skills: 2.2a Analysis and evaluation of how each design idea meets the design brief and product specification. 2.2b Determine which designs follow the design brief and product specification and should be taken forward for development. 2.2c Modification of design ideas 2.3a Consideration of user group needs and preferences, of design ideas, conducting further research where necessary. 2.3b Consideration of the design as a whole, rather than focussing on component parts in isolation. 2.3c Modelling/simulation used to test the features of the design ideas. 2.3d Analysis and evaluation of the design ideas, to inform choice as to the chosen design to take forward. 2.3e Modification of design ideas to produce the chosen design, which meets the design brief and product specification. Formative Assessment: Bi-weekly pit stop to assess understanding of knowledge covered. Questions based on gaps in previous pit stop knowledge & understanding	Knowledge: Contextual challenge – Development of labelling & logos Contextual challenge – Review of final design Contextual challenge – Presentation of final concept Contextual challenge – Prototype manufacture & making log update Skills: 2.4a Use a range of communication techniques and media to present the design ideas, including: a freehand sketching (2D and/or 3D), b annotated sketches, c cut and paste techniques, d digital photography/media, e 3D models, f isometric and oblique projection, g perspective drawing, h orthographic and exploded views, i assembly drawings, j system and schematic diagrams, k computer-aided design (CAD) and other specialist computer drawing programs. 2.4b Communicate the design ideas clearly and effectively using written techniques. 2.5a Produce a chosen design solution for the product that meets the design brief and product specification. 2.5b Consideration given to the materials, techniques and processes required to produce the chosen design solution. 2.5c Incorporation of feedback from research into the chosen design. Formative Assessment: Bi-weekly pit stop to assess understanding of knowledge covered. Questions based on gaps in previous pit stop knowledge & understanding Pit 1 – (10 marks)	Knowledge coverage: 1.1 to 1.17 of core knowledge and to 3.1 to 3.8 of paper and board knowledge **(Dept. written paper)** Skills tested: Using notes and/or sketches, calculate, explain, analyse, discuss, state, select, justify, describe, compare. Assessment style/questions: Offset lithographic printing is commonly used for commercial printing, explain the main advantages and disadvantages of using it. State the advantages of using the following papers and boards and give an example of a product made with the material. Explain why are coal, oil and gas classed as non-renewable energy sources?

	Pit 1 – (10 marks) Pit 2 – (10 marks) Pit 3 – (10 marks) End point: Students will undertake a project based on a contextual challenge released by EDEXCEL a year before certification. This will be released on 1st June and will be available on their website. The project will test students' skills in investigating, designing, making and evaluating a prototype of a product. The task will be internally assessed and externally moderated.	Pit 2 – (10 marks) Pit 3 – (10 marks) End point: Students will undertake a project based on a contextual challenge released by EDEXCEL a year before certification. This will be released on 1st June and will be available on their website. The project will test students' skills in investigating, designing, making and evaluating a prototype of a product. The task will be internally assessed and externally moderated.	
Term 2	2:1 NEA Coursework Unit	2:2: Core knowledge	Spring % Assessment
	Knowledge: Contextual challenge – Prototype manufacture & making log update Contextual challenge – Photographs & stakeholder feedback Contextual challenge – Testing and Lifecycle analysis Skills: 3.1a Production of a prototype that meets the requirements of the design brief and product specification, showing a wide range of making skills with precision and accuracy. 3.1b Selection and application of: a material, b range of tools, including marking-out tools, hand tools and machinery, c range of techniques, d fixtures, templates, jigs and/or patterns, e components, f surface treatments and finishes, used in the manufacture of the prototype. 3.1c Demonstration of safe working practice, for themselves and others. 3.2a Measuring the degree to which the prototype performs as intended. 3.2b The prototype is accurately assembled and finished to a high quality. 4.1a Analyse the prototype against the product specification by conducting a variety of tests under realistic conditions, to ensure fitness for purpose. 4.1b Analyse the results of the prototype testing. 4.1c Evaluate whether the prototype meets the product specification. 4.1d Evaluate the sustainability of the final prototype by carrying out a life cycle assessment (LCA),	Knowledge: Core Revision - 1.1 to 1.17 Skills: The exam paper will assess the breadth of design and technology knowledge in the Core section, and assess the depth of knowledge in paper and board for the Specialist section to enable students to fully demonstrate their own particular strengths or specialism. Formative Assessment: Bi-weekly pit stop to assess understanding of knowledge covered. Questions based on gaps in previous pit stop knowledge & understanding Pit 1 – 1.1 to 1.6 (10 marks) Pit 2 – 1.7 to 1.11 (10 marks) Pit 3 – 1.12 to 1.17 (10 marks) End point: Students can understand, analyse and respond to exam style questions based on the topics revised.	Knowledge coverage: 1.1 to 1.17 of core knowledge and to 3.1 to 3.8 of paper and board knowledge **(May 2019 full paper)** Skills tested: Using notes and/or sketches, calculate, explain, analyse, discuss, state, select, justify, describe, compare. Assessment style/questions: (To complete when paper is published electronically)

	Formative Assessment: Bi-weekly pit stop to assess understanding of knowledge covered. Questions based on gaps in previous pit stop knowledge & understanding Pit 1 – (10 marks) Pit 2 – (10 marks) Pit 3 – (10 marks) End point: Students will undertake a project based on a contextual challenge released by EDEXCEL a year before certification. This will be released on 1st June and will be available on their website. The project will test students' skills in investigating, designing, making and evaluating a prototype of a product. The task will be internally assessed and externally moderated.		
Term 3	3:1: Paper & Board knowledge		Summer % Assessment
	Knowledge: Paper & Board Revision 3.2 to 3.8 Skills: The exam paper will assess the breadth of design and technology knowledge in the Core section, and assess the depth of knowledge in paper and board for the Specialist section to enable students to fully demonstrate their own particular strengths or specialism. Formative Assessment: Bi-weekly pit stop to assess understanding of knowledge covered. Questions based on gaps in previous pit stop knowledge & understanding Pit 1 – 3.2 & 3.3 (10 marks) Pit 2 – 3.4 & 3.5(10 marks) Pit 3 – 3.6, 3.7 & 3.8 (10 marks) End point: Students can understand, analyse and respond to exam style questions based on the topics revised.		Real GCSE exam