Sir Thomas Boughey 2018/19 DT & ENGINEERING CURRICULUM MAP

Year 7	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content / topics	Bot Project	Bot Project	Aluminium Tea light	Aluminium Tea light	LED Torch	Phone sock
Skills	2D sketching, 3D drawing (oblique, isometric, one point perspective) 2D CAD drawing, 3D CAD drawing	Marking out, workshop safety, cutting timber, using wood working machine tools.	3D sketching, modelling in paper and card, using templates, cutting sheet metal	Filing sheet metal, riveting sheet metal, workshop safety, adding thickness to drawings, tonal shading and textured drawings.	Making a simple circuit, vacuum forming plastics, batch production, packaging graphics	Stitching techniques, measuring and cutting fabrics, 2D computer graphics
Assessments / PPEs	Baseline assessment test, and review of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term.

Year 8		Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content / topics	Clock project	Clock project	Steady hand game	Steady hand game	Jewellery/box	Promotional graphics
Skills	Researching Art Deco, 2D CAD, 3D CAD, Orthographic drawing, exploded drawing	Marking out wood, cutting and joining wood, mitre/half lap joining, workshop safety.	3D drawing, 2D graphics drawing, designing circuits, electrical soldering	Electrical soldering, laser cutting and engraving, joining manufactured boards, finishing techniques.	Working in copper, fret saw cutting, metal engraving, working with solid hardwoods.	Working with Photoshop/illustrator, desk top publishing, cutting, filing and line bending acrylic.
Assessments / PPEs	Baseline assessment test and review of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term

Year 9 Engineering	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content / topics	Docking station & mini making tasks	Docking station & materials investigation	Docking station & product analysis	Docking station & product analysis	Docking station & component reproduction	Docking station & component reproduction
Skills	Oblique drawing, isometric drawing, producing design drawings, 3D CAD, test joints in plywood, marking and filing steel bar.	Toughness, hardness, malleability testing in metals. Developing designs using 3D drawing and 3D CAD	Disassembly of an engineered product, identifying materials and components, analysing materials and their use in an engineered product. Modelling in card.	Modelling designs, presenting designs to an audience, evaluating designs, analysis of materials and components	Building docking station using a range of materials/tools and equipment. Reproducing a component part using turning, thread cutting.	Building docking station using a range of materials/tools and equipment. Reproducing a component part using turning, thread cutting.
Assessments / PPEs	Baseline assessment test and review of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term

Year 10	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content / topics	Docking station & mini making tasks	Docking station & materials investigation	Docking station & product analysis	Docking station & product analysis	Docking station & component reproduction	Docking station & component reproduction
Skills	Oblique drawing, isometric drawing, producing design drawings, 3D CAD, test joints in plywood, marking and filing steel bar.	Toughness, hardness, malleability testing in metals. Developing designs using 3D drawing and 3D CAD	Disassembly of an engineered product, identifying materials and components, analysing materials and their use in an engineered product. Modelling in card.	Modelling designs, presenting designs to an audience, evaluating designs, analysis of materials and components	Building docking station using a range of materials/tools and equipment. Reproducing a component part using turning, thread cutting.	Building docking station using a range of materials/tools and equipment. Reproducing a component part using turning, thread cutting.
Assessments / PPEs	Baseline assessment test and review of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term	End of unit test and assessment of skills at half term

Year 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content / topics	Exploring Engineering Sectors	Exploring Engineering skills through the design process	Exploring Engineering skills through the design process	Plan the manufacture and safely reproduce, inspect and test a given engineering product	Investigate a given engineered product using disassembly techniques	Synoptic paper: Responding to an engineering brief.
Skills	Researching engineering sectors, identifying links between sectors, investigating engineering organisations, investigating job roles and career progression	Analysing an engineering brief and producing a specification, developing designs using 2D and 3D sketches, using 2D CAD and physical modelling	Collating a design portfolio, carrying out a design review, giving feedback in design reviews of others, Evaluating own design. Suggesting improvements.	Plan for the safe manufacture of a component, prepare a list of tools and equipment, risk assess the process, make the component, quality inspect the component.	Safe use of disassmebly techniques, removal of semi-permanent fixings, parts removal and layout, replacement of non-reusable fixings, safe use of tools for disassembly/assembly.	Understand how to respond to an engineering brief, select skills and techniques, apply skills, and evaluate outcomes.
Assessments / PPEs	Baseline assessment test and review of skills at half term	Pre Public Exam 1 and half term assessment of project	Pre public exam 2 and half term assessment of project	End of unit test and assessment of made component	Assessment of evidence portfolio	