Year 7					Year 8				
Rotation 1	Week 1-6	Week 6-12	Rotation 2	Week 1-6	Week 6-12	Rotation 1	Week 1-6	Week 6-12	Rotation 2	Week 1-6	Week 6-12
Blockbot	**Knowledge** Introduction to the workshop Health & Safety Wood types & properties Designing for a user **Skills** 3D Sketching Isometric Measuring Marking out Cutting by hand Finishing with abrasives	**Knowledge** Types of abrasives Wood finishes & applications Wood based composites (man made board) Quality Control **Skills** Measuring Marking out Cutting by hand Drilling Belt Sander Decoupage	**Packaging Project**	**Knowledge** Customer Research Design Specification Interpreting Orthographic Projection Packaging Thermoplastics Product Analysis **Skills** Freehand drawing Orthographic Projection 2D CAD	**Knowledge** Packaging symbols Sustainability The 6 R's **Skills** Vacuum Forming Line Bending Evaluation	**Creative Creatures**	**Knowledge** Types of wood Properties of wood inc grain Simple mechanisms Stock forms of timber Use of a cutting list (project planning) **Skills** Measuring Marking out Cutting by hand Drilling Belt Sander Finishing by hand	**Knowledge** Scales of Production, focus on batch Use of manufacturing aids & jigs Evaluation **Skills** Measuring Marking out Cutting by hand Drilling Belt Sander Finishing by hand	**Eco Homes (CAD)**	**Knowledge** Sustainability Properties of materials CAD CAM Design Specification **Skills** 3D CAD Interpreting Technical Drawings Primary product analysis	**Knowledge** Sustainability Properties of materials CAD CAM **Skills** Use of 3D CAD Presentation techniques
Assessment Accessment Criteria (See Grading Grid for Performance Band info)	Ongoing formative, Peer Assessment of design ideas	Summative assessment of practial outcome. Focus on Accuracy & quality of finish. AC1.2 interpret engineering information AC2.1 identify resources required AC3.1 use tools in production of engineering products		Formative assessment on graphics work.	Summative assessment of final outcome. Focus on how closely they have met the design criteria. AC1.1 identify features that contribute to the primary function of engineered products AC1.2 identify features of engineered products that meet requirements of a brief		Ongoing formative	Summative assessment on final outcome. Focus on creativity and complexity. AC1.2 interpret engineering information AC2.1 identify resources required AC3.1 use tools in production of engineering products		Ongoing formative	Final design presentation summatively marked on use of CAD, quality of design and how closley the design meets the specification criteria. AC3.1 develop creative ideas for engineered products AC2.2 communicate design ideas

Threshold Concept									
	2. Knows how to classify materials by structure e.g. hard words, soft woods, ferrous and non-ferrous, thermoplastic and thermosetting plastics. 3. Knows the working properties a range of woods, metals, plastics and composite materials. e.g. grain, brittleness, flexibility, elasticity, malleability and thermal . Can apply this knowledge when selecting materials for a specific application.	7. Understands how products are manufactured in industry as opposed to the school workshop. (Should know a range of industrial manufacturing processes and scales of production). 4. Understand that designers & engineers create products to meet the needs of a specific user group based on research.	4. Understand that designers & engineers create products to meet the needs of a specific user group based on research. 2. Understands the classifications and working properties of materials. Can apply this to solve engineering problems.	7. Understands how products are manufactured in industry as opposed to the school workshop. (Should know a range of industrial manufacturing processes and scales of	2. Understands the classifications and working properties of materials. Can apply this to solve engineering problems.	7. Understands how products are manufactured in industry as opposed to the school workshop. (Should know a range of industrial manufacturing processes and scales of	4. Understand that designers & engineers create products to meet the needs of a specific user group based on research. 4.Understands the need for different forms of communication between those involved in the design & manufactire process.	6. Understands the responsibilities of designers and the wider impact of design and manufacture on our society and the planet.	

Year 9

Rotation 1

Architectural Candlestick

Week 1-6

Knowledge

What are design eras & movements?
Art Deco, Modernism, Bauhaus.
Key designers & designs.
Evaluating mock ups

Skills

Designing in the style of…
Designing without drawing
Working with modeling foam

Week 6-12

Skills

3rd Angle Orthographic Projection
Planning for manufacture
Cutting by hand
Finishing with abrasives
Quality control & quality assurance

Assessed Extended HW project on the work a designer / architect of their choice.

AC1.1 identify features that contribute to the primary function of engineered products AC1.2 identify features of engineered products that meet requirements of a brief
AC1.3 describe how engineered products function

Rotation 2

Engineering / metals project

Week 1-6

Knowledge

Materials classification, Alloys, Properties of metals. Interpreting & producing technical drawings. Marking out with an engineers scribe. Cutting and shaping metal.

Skills

Marking out with an engineers scribe. Cutting and shaping metal.

Week 6-12

Knowledge Industrial metal working processes. Heat treatment processes. Anti corrosion reatments. Evaluation.

Skills

Lathe, Milling machine, abrasives & polishing.

Test on materials

Assessed on final submission

AC1.2 interpret engineering information
AC2.1 identify resources required
AC3.1 use tools in production of engineering products

4. Understand that designers & engineers create products to meet the needs of a specific user group based on research.	7. Understands how products are manufactured in industry as opposed to the school workshop. (Should know a range of industrial manufacturing processes and scales of production)	2. Understands the classifications and working properties of materials. Can apply this to solve engineering problems.	7. Understands how products are manufactured in industry as opposed to the school workshop. (Should know a range of industrial manufacturing processes and scales of production).
4.Understands the need for different forms of communication between those involved in the design & manufactire process.		4.Understands the need for different forms of communication between those involved in the design & manufactire process.	