



Curriculum Overview: Design Technology & Engineering

Exam Board: OCR

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
7	Perspective <ul style="list-style-type: none"> ○ Vanishing point ○ Perspective lettering ○ 3D shapes ○ Isometric drawings ○ Rendering & adding colour 	Perspective <ul style="list-style-type: none"> ○ Overlapping isometric shapes ○ Food packaging research ○ 3D drawing ○ Real life application ○ Designing food packaging ○ Summative assessment ○ Evaluation 	Bug Box <ul style="list-style-type: none"> ○ Design brief ○ Research & design ○ Mood boards ○ Design Specification ○ Marking accurately ○ Practical cutting 	Bug Box <ul style="list-style-type: none"> ○ Quality checks ○ Belt sanding ○ Gluing & assembly ○ Summative assessment ○ Photography ○ Evaluation 	Keyring <ul style="list-style-type: none"> ○ Marking out & tools ○ Tolerance ○ Metals & their uses ○ Measuring accurately ○ Pillar drill ○ Metal lathe 	Keyring <ul style="list-style-type: none"> ○ Milling machine uses ○ CNC machining ○ Plan of making ○ Practical with metal ○ Summative assessment ○ Photography ○ Evaluation
8	Cable Wrap <ul style="list-style-type: none"> ○ Analysing a design problem ○ Design to a theme ○ Product research ○ Design sheet & layout ○ Developing 3D styles ○ Design sheets 	Cable Wrap <ul style="list-style-type: none"> ○ Final design & annotation ○ Creating a prototype ○ CAD 2D design software ○ Laser cut final design ○ Product Photography ○ Evaluation 	Desk Tidy <ul style="list-style-type: none"> ○ What's the problem? ○ Research & mind map ○ Categories of wood ○ Design sheets ○ Practical part 1 (back) ○ Practical part 2 (body) 	Desk Tidy <ul style="list-style-type: none"> ○ Assembly of product – base) ○ Quality checking ○ Tool diary ○ Product Photography ○ Evaluation 	Metal Sculpture <ul style="list-style-type: none"> ○ Engineering careers ○ Project introduction ○ Design sheets ○ Metals & their uses ○ Metal alloys ○ Practical – marking out ○ Cutting out 	Metal Sculpture <ul style="list-style-type: none"> ○ Steel & stainless-steel uses ○ Gold uses ○ Practical – filing metal ○ Creating metal feet ○ Brazing ○ Product Photography ○ Evaluation
9	Natural Forms <ul style="list-style-type: none"> ○ Define nature & research ○ Research – planning & Haeckel ○ Inspiration v copying ○ Geometric & organic patterns ○ Pattern design creation# ○ Experimenting with design 	Natural Forms <ul style="list-style-type: none"> ○ Pattern development ○ Final design & annotation ○ Self & peer reflection of design ○ Card prototype ○ CAD final design & making ○ Product Photography ○ Evaluation 	Mood Light <ul style="list-style-type: none"> ○ Understanding a specification – designing for a customer ○ Soldering techniques ○ Developing design ○ Innovation v invention ○ Intro to vacuum forming ○ Creating wooden mould 	Mood Light <ul style="list-style-type: none"> ○ Understanding MDF ○ High impact polystyrene ○ Using texture in design ○ Create vacuum formed shell ○ Assembling circuit & switch ○ Product Photography ○ Evaluation 	Tap Wrench <ul style="list-style-type: none"> ○ Recall – engineering experience and knowledge ○ Glossary of terms & drawings ○ Accuracy & tolerance ○ Marking out & tapping ○ Cutting metal & brazing ○ Grinding & polishing 	Tap Wrench <ul style="list-style-type: none"> ○ Engineering drawings ○ Understanding manufacturing ○ Lathe & milling machine ○ Plan of making ○ Threading holes ○ Product Photography ○ Evaluation
10	Intro to GCSE Engineering <ul style="list-style-type: none"> ○ Intro to manufacture specification ○ Reading engineering drawings ○ Risk assessment in the workshop ○ Practical engineering drawing ○ Into to coursework R015 	Intro to GCSE Engineering <ul style="list-style-type: none"> ○ Label engineering drawing ○ Engineering materials (categories, properties & testing) ○ Marking out on materials ○ Plan of making 	Materials & Properties <ul style="list-style-type: none"> ○ Manufacturing processes (wasting) ○ Turning & milling ○ Marking out ○ Photography ○ Machining @ Dudley College 	Materials & Properties <ul style="list-style-type: none"> ○ Manufacturing processes (finishing, joining) ○ Drilling, bending & threading ○ Assembly ○ Photographs ○ Hand in R015 	Processes <ul style="list-style-type: none"> ○ Manufacturing processes (shaping, injection moulding, casting) ○ 3 x skills tests ○ Final touches and rework off R015 if required 	Processes <ul style="list-style-type: none"> ○ Manufactured processes (forming, pressing, forging) ○ 3 x skills tests ○ Mock exam revision ○ Mock exam
11	Manufacturing <ul style="list-style-type: none"> ○ Scale of manufacture ○ Robotic, automation, CNC ○ CAD software ○ 2D Design on shape ○ Introduction to R016 ○ Engineering drawing ○ Making templates 	Programming <ul style="list-style-type: none"> ○ Quality control ○ CAD & Programming ○ Post processing ○ G Code ○ Plan of making 	Globalisation <ul style="list-style-type: none"> ○ Inventory management ○ Lean manufacturing ○ Operating laser cutter using CNC & 3D printer ○ Evidence of CAD photos ○ Evidence of making photos 	Globalisation <ul style="list-style-type: none"> ○ Globalising & digital technology ○ Using templates (accuracy & tolerance) ○ Quality control photos ○ R016 hand in coursework 	Exam Prep & Exam <ul style="list-style-type: none"> ○ Final exam revision ○ Final touches and rework of R016 if required 	- ○ NA