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Subject	**DT**				**Year**	**7**
	Term 1- Design- Mood Light	**Term 2- Design- Mood Light**	**Term 3- Make- Wooden Wendy**	**Term 4-Make- Wooden Wendy**	**Term 5**	**Term 6**
Topic/ Specification reference	Design (mood light)	Design (mood light)		GCSE: 1.12 Natural and manufactured timbers		
Knowledge	Design process and research and exploration. Focussing on a specific client (health and wellbeing). How to write a specification. Art movements (arts and crafts, art nouveau, art deco, post modernism). CAD/CAM uses	Properties of timber Understand and use electrical systems. (input/process/output) Understanding what a prototype is.	Health and Safety in the workshop Uses of hand tools Basic sketching and presentation techniques Metric measurements	Product analysis Timber categories, varieties and uses Self-evaluative techniques		
Skills	**Students will learn and demonstrate the following;** **Technical Drawing and problem solving.** Initial design stage. (rendering and annotating designs). Development (technical drawing- 1 point perspective& isometric) **CAD**- 2d design skills (design shade) **CAM**-intro to laser cutter (cut shade)	Hand tools (to make base); Steel rule- marking and measuring (numeracy) Try square- marking and measuring (numeracy) Tenon saw Painting techniques **Soldering and circuits (bulb)** Create a circuit to make a working bulb.	Measure, mark and cut Use of a range of hand tools Pillar drill and disc sander	Marking out techniques Familiarising with working drawings Finishing techniques Introduction to 2D CAD and laser cutting		

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Subject	**DT**				**Year**	**7**
		Assembling Using quality control and quality assurance to create a high-quality product				
Key vocabulary	Brief Holistic therapy Primary research Secondary research Specification ACCESS FM Initial designs Development Prototype Client Peer assessment Evaluation	Evaluation Computer-Aided-Design Computer-Aided-Manufacture Quality Control Health and Safety	Technical language relating to: Hand tools, machinery, measuring devices	Technical language relating to: Marking out equipment		
Assessment	**Design** I can use research and exploration, to identify user needs I can solve my own design problems I can develop specifications to inform my design	**Evaluate** I test, evaluate and refine my ideas and products against a specification I investigate new and emerging technologies	Booklet marking (Formative)	End of topic test		

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Subject	**DT**				**Year**	**8**
	Term 1- Design	**Term 2- Design**	**Term 3- Make**	**Term 4-Make**	**Term 5**	**Term 6**
Topic/ Specification reference	Swivel Box	Pewter Pendant	GCSE Unit 1.17: Using communication techniques to present ideas	GCSE Unit 1.17: Using communication techniques to present ideas		
Knowledge	Design process, research and exploration Focussing on a specific client (teenagers).	Social factors/emerging new technologies How to write a specification Environmental issues Properties of metal Understand the die casting process Understanding what a prototype is.	Drawing conventions Orthographic drawing and its uses	Isometric drawing and its uses		
Skills	**Students will learn and demonstrate the following;** **Technical Drawing and problem solving.** Initial design stage. (rendering and annotating designs). Development (crating) Shading using a pencil (highlighting) **Tools and machines (to make box);** Steel rule- marking and measuring (numeracy) Try square- marking and measuring (numeracy) Electric scroll saw / Electric sander / Pillar drill/ Files /Painting techniques	**Tools and machines (pendant mould);** **CAD/CAM** 2d design Laser cutter **Tools and machines (to make pendant);** **Die casting process-** Brazing health/blow torch/mould/ladle/anvil Filing (draw and cross) Drill	Basic wood joints Marking out techniques Assembly skills Traditional technical drawing techniques	2D design (CAD) Laser cutting Using CAD to produce working drawings and to run CAM systems		

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Subject	**DT**				**Year**	**8**
Key vocabulary	Brief Initial designs Development Annotation Client Peer assessment Evaluation Quality Control	Brief / Society / Obsolescent Remote manufacture Push/Pull Throw-away culture 6 R's ACCESS FM Initial designs Development Annotation Prototype Client Peer assessment Evaluation Computer-Aided-Design Computer-Aided-Manufacture Quality Control Pewter Alloy Mould Brazing hearth Die-casting	Technical language relating to: Drawing equipment, drawing conventions, CAD CAM systems	Technical language relating to: Drawing equipment, drawing conventions, CAD CAM systems		
Assessment	Design- I can use research and exploration, to identify user needs I can solve my own design problems	Design- I can develop specifications to inform my design. Evaluate- I test, evaluate and refine my ideas and products against a specification.I investigate new and emerging technologies	Booklet marking (Formative)	End of topic test		

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Subject	**DT**				**Year**	**9**
	Term 1- Design	**Term 2- Design**	**Term 3- Make- Metal Man**	**Term 4-Make- Metal Man**	**Term 5**	**Term 6**
Topic/Specification reference	**Term 1- Design- Desk Tidy Project**	**Term 2- Design- Desk Tidy Project**	GCSE Unit 1.5: Mechanical devices	GCSE Unit 1.8: Ferrous and non-ferrous metals		
Knowledge	Relate to theory – Timbers in Core section, Timbers specialism Design process – supports the NEA at GCSE	Life cycle Analysis: Environmental Considerations	Motion, force and mechanism	Steel: properties and uses Product analysis of mechanical devices		
Skills	Timbers properties: Softwoods, Hardwoods and Manufactured boards	Practical skills: cardboard modelling, wood joining, finishing of woods, accuracy and precision	Reading engineering drawings Working with metal Thread cutting Marking out on metal	Joining metal with heat Metal fixtures and fittings Finishing metal		
Key vocabulary	• Design Brief • Aesthetics • Function • One Point Perspective • Two Point Perspective • Isometric • Product Analysis	• Names of tools & Equipment • Evaluation • Carbon Footprint • Life-cycle analysis	Technical language relating to: Mechanical devices, workshop tools and equipment	Technical language relating to: Marking out equipment, material properties		
Assessment	Verbal feedback for practical lessons Mid point assessment of the booklets	Verbal feedback for practical lessons End assessment of the booklets	Booklet marking (Formative)	End of topic test		

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Subject	**GCSE Design and Technology**				**Year**	**10**
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic/Specification reference	Unit 1: Core (2/5 periods) Unit 2: Materials Specialism (3/5 periods)	Unit 1: Core (2/5 periods) Unit 2: Materials Specialism (3/5 periods)	Unit 1: Core (2/5 periods) Unit 2: Materials Specialism (3/5 periods)	Unit 1: Core (2/5 periods) Unit 2: Materials Specialism (3/5 periods)	Unit 1: Core (2/5 periods) Unit 2: Materials Specialism (3/5 periods)	NEA Section 1: Investigation
Knowledge	Core Knowledge and Understanding Material Specialism Knowledge and Understanding	Core Knowledge and Understanding Material Specialism Knowledge and Understanding	Core Knowledge and Understanding Material Specialism Knowledge and Understanding	Core Knowledge and Understanding Material Specialism Knowledge and Understanding	Core Knowledge and Understanding Material Specialism Knowledge and Understanding	
Skills	Practical skills project (METALS = weathervane, TIMBERS = ...)	Practical skills project (METALS = weathervane, TIMBERS = ...)	Practical skills project (METALS = weathervane, TIMBERS = ...)	Practical skills project (METALS = weathervane, TIMBERS = ...)	Practical skills project (METALS = weathervane, TIMBERS = ...)	
Key vocabulary	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	
Assessment		Test: Materials and their properties	Test: Material specialism mid topic		Test: Material specialism end of topic	NEA progress continuously tracked

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Subject	**WJEC Level 1/2 Vocational Course in Engineering**				**Year**	**10**
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic/Specification reference	Unit 1: Manufacturing Engineering Products Project: Scribing Block Manufacturing	Unit 1: Manufacturing Engineering Products Project: Scribing Block Manufacturing	Unit 1: Manufacturing Engineering Products	Unit 1: Manufacturing Engineering Products	Units 1 and 2	Unit 2: Designing Engineering Products Project: Scribing Block Design
Knowledge	Interpreting and presenting Engineering Drawings and Information	Planning and sequencing	Evaluative processes Unit 1 Assignment Feb-May	Unit 1 Assignment Feb-May	Unit 1 Assignment Feb-May	Features and functions of engineering products
Skills	Equipment and tool selection Using Engineering tools and equipment	Apply a range of engineering processes Work with a range of materials	Unit 1 Assignment Feb-May	Unit 1 Assignment Feb-May	Unit 1 Assignment Feb-May	Generating, developing and communicating design ideas
Key vocabulary	Technical language relating to the above	Technical language relating to the above				Technical language relating to the above
Assessment		Scribing Block project booklet marking (Formative)			Unit 1 Assessment May	

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Subject	**GCSE Design and Technology**				**Year**	**11**
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic/Specification reference	NEA: Investigation NEA: Specification NEA: Design Ideas	NEA: Design Ideas NEA: Review NEA: Development	NEA: Development NEA: Review	NEA: Manufacturing	NEA: Manufacturing NEA: Evaluation	NEA: Evaluation
Knowledge	Exam knowledge refreshers and practice	Exam knowledge refreshers and practice	Exam knowledge refreshers and practice	Exam knowledge refreshers and practice		Exam Practice
Skills	Skills learned in Y10 developed and put into practice	Skills learned in Y10 developed and put into practice	Skills learned in Y10 developed and put into practice	Skills learned in Y10 developed and put into practice	Skills learned in Y10 developed and put into practice	
Key vocabulary						
Assessment	NEA progress continuously tracked	NEA progress continuously tracked	NEA progress continuously tracked Y11 Mock	NEA progress continuously tracked	NEA progress continuously tracked	NEA Assessment: Mid May

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Subject	**WJEC Level 1/2 Vocational Course in Engineering**				**Year**	**11**
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic/Specification reference	Unit 2: Designing Engineering Products Project: Scribing Block Design	Unit 2: Designing Engineering Products Project: Scribing Block Design	Units 2 and 3	Unit 3: Solving Engineering Problems	Unit 3: Solving Engineering Problems	Unit 3: Solving Engineering Problems
Knowledge	Mathematical techniques Justifying materials and processes	Unit 2 Assignment Oct - Jan	Unit 2 Assignment Oct - Jan Unit 3: 3.1.1 - 3.2.3 Knowledge and Understanding	Unit 3: 3.1.1 - 3.2.3 Knowledge and Understanding	Unit 3: 3.1.1 - 3.2.3 Knowledge and Understanding	
Skills	Producing a manufacturing specification Drawing an engineering design solution					
Key vocabulary	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above	Technical language relating to the above
Assessment	Scribing Block Design project booklet marking (Formative)		Unit 2 Assessment Jan			Unit 3 Assessment (EXAM) June

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Subject	**A Level Product Design**				**Year**	**12**
	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Specification reference	Theory Topic 5: Factors influencing the development of products Topic 3.3 Pictoral drawing methods for representing 3D forms Topic 1 Materials Topic 2 Performance characteristics of materials	Theory Topic 5: Factors influencing the development of products Theory Topic 6: Effects of technological developments Topic 4 Digital technologies – CADCAM Topic 3: Processes, techniques and specialist tools	Theory Topic 7 Safe working practices, potential hazards and risk assessment Topic 1 Materials: Papers and Boards, Textiles, Smart and Modern Materials Topic 3: Processes, techniques and specialist tools	Topic 8: Features of manufacturing industries Topic 3: Processes, techniques and specialist tools Topic 4: Digital Technologies	Topic 8: Features of manufacturing industries Begin NEA coursework unit: Problem investigation Topic 9: Designing for a cleaner environment	Topic 9: Designing for maintenance and the cleaner environment Begin NEA coursework unit: Problem investigation & Research
Knowledge	-Factors influencing the development of products. -Pictoral drawing methods for representing 3D forms.	-Factors influencing the development of products. - Effects of technological developments - Digital technologies - CADCAM	-Safe working practices, potential hazards and risk assessment -Materials: Papers and Boards, Textiles, Smart and Modern Materials	- Features of manufacturing industries	-Features of manufacturing industries	-Designing for maintenance and the cleaner environment
Skills	Technical Drawing – Crating and Freehand 3D sketching, isometric, one-point and two-point perspective, orthographic.	2D Design CAD Laser cutting CAM 3D	TinkerCAD/Fusion 3D Printing CAM E-Portfolio ICT skills 2D CAD modelling	E-Portfolio ICT skills 2D CAD modelling	Project scheduling, presentation methods, identifying user	Project scheduling, presentation methods, identifying user

Subject	**A Level Product Design**				**Year**	**12**
		Modelling (mini chair model project – linking to Design movements) Workshop practical			needs, research and analysis	needs, research and analysis
Key vocabulary	- User centred design - Anthropometrics - Ergonomics - Form and function - Design movements	- Mass production - Global marketplace - Computer aided design - Computer aided manufacture	Safe working practises Risk assessment Drawing papers Commercial printing papers Boards Natural fibres Manmade fibres Textile treatments Smart and modern materials	Methods of production; one-off, batch and mass Quality control and assurance Total quality management	Robotics Materials handling systems Flexible manufacturing systems Lean manufacturing Quick response manufacturing	Sustainability Life cycle analysis
Assessment	End of Topic Assessment	End of Topic Assessment Design movements/chair modelling booklet feedback	End of Topic Assessment E-portfolio feedback over Teams – mini modelling project	End of Topic Assessment E-portfolio feedback over Teams – mini modelling project	End of Topic Assessment NEA assessment	End of Topic Assessment NEA assessment

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Subject	**A Level Product Design**				**Year**	**13**
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic/Specification reference	Topic 10 Current Legislation NEA – Research & Investigation, Specification	Topic 11 Information handling, modelling and forward planning NEA – Design Ideas, Review of Design Ideas, Development, Final Idea	NEA – Practical	NEA – Practical, Evaluation	NEA – Evaluation & Final Submission Topic 12: Further processes and techniques	Study leave
Knowledge	-Current legislation	-Information handling, modelling and forward planning	- Practical processes, techniques and specialist tools through NEA	- Practical processes, techniques and specialist tools through NEA	-User centred design - Life cycle analysis - Further processes and techniques	
Skills	Analysis Research Design ideation	Creativity Presentation Visual communication CADCAM	Safe working practises Application of measurements Joining techniques Finishing techniques CADCAM	Safe working practises Application of measurements Joining techniques Finishing techniques CADCAM Critical analysis skills		
Key vocabulary	Consumer Rights Act (2015) Sales of Goods Act (1979) Health and safety regulations COSHH	-Collection, collation and analysis of information - Modelling and costing of projects -Intellectual Property - -Standard	Quality control Quality assurance Project scheduling	Quality control Quality assurance Project scheduling		
Assessment	End of Topic Assessment NEA assessment	End of Topic Assessment NEA assessment	NEA assessment	NEA assessment	NEA assessment In-class assessments	