

RESISTANT MATERIAL: Year 10

Course Outline



Half term	TOPIC	CONTENT	What this covers
1	Wood based project	Design task 7 from controlled assessment tasks	Analysis of brief, researching and having some knowledge of some design eras of the last 100 yrs, interpreting key information.
		Health and safety in workshop (covering wood, metal and plastic)	Health and safety law and school rules in workshop
		Conveying ideas	Drawing sketching, rendering, CAD, modelling, card and wood modelling
OCTOBER HALF TERM HOLIDAY			
2	Wood based project	Wood theory	Natural timber, manmade boards, sustainability of wood.
		Woodworking tools and joining wood	KD fittings, marking out, sawing, joining, finishing
		Lathe work	Health and safety on lathe and how to use the woodworking lathe
		Wood joints	Researching, knowing about the reasons for different types and then making different wood joints
CHRISTMAS HOLIDAYS			
3	Plastic based project		Analysis of brief, researching, use of CAD 2D.
		Plastics theory	Thermoplastics, thermosetting plastics, sustainability of plastics, plastic working tools, finishing plastic
		Vacuum forming and laser cutting	Practice and use
FEBRUARY HALF TERM HOLIDAY			
4	Plastic based project	Practical work	Marking out, sawing, shaping, joining, bending, finishing
		Designing with plastic	Investigate a designer who uses plastic in their work, the 6 R's, designing for maintenance
		CAD/CAM with plastic	Solidworks training
EASTER HOLIDAYS			
5	Metal based project		Sketching, rendering and annotation
		Metal theory	Property of materials, ferrous/ non ferrous, sustainability of metals, metal working tools
		Famous designers	Investigating a famous designer who uses metal in their work
MAY HALF TERM HOLIDAY			
6	Metal based project	Joining metals	Welding, soldering, riveting, spot welding
		CNC lathe work and milling	Turning and milling metal
		Practical metal task	Marking out, sawing, filing, drilling, joining, finishing